60
254

LEEDS INFIRMARY

MEDICAL LIBRARY,

Entered Octr. 31 ~~177~~ 1813

Allowed for reading the first Year Weeks Days 10

—After the first Year 2

Forfeiture per Day for keeping it beyond the Time. 1 d

THE

BOTANICAL GUIDE;

OR, THE

PRINCIPLES

OF

BOTANICAL PHILOSOPHY AND ARRANGEMENT,

COMPRISED UNDER THE HEADS

OF

ANATOMY,
VEGETATION,
CLASSIFICATION, AND
MATERIA MEDICA.

THE EDINBURGH SCHOOL OF MEDICINE;

CONTAINING THE
PRELIMINARY OR FUNDAMENTAL BRANCHES
OF
PROFESSIONAL EDUCATION,
VIZ.
ANATOMY, MEDICAL CHEMISTRY, AND
BOTANY.

Intended as an
INTRODUCTION TO THE CLINICAL GUIDE.

THE WHOLE FORMING A COMPLETE SYSTEM OF MEDICAL
EDUCATION AND PRACTICE ACCORDING TO THE
ARRANGEMENT OF THE EDINBURGH SCHOOL.

BY WILLIAM NISBET, M.D.
FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF
EDINBURGH, &c.

MEDICAL LIBRARY

IN FOUR VOLUMES.

VOL. IV.

LONDON:
Printed for T. N. LONGMAN and O. REES, Paternoſter-Row.
1802.

601705

Printed by A. Strahan,
Printers-Street, London.

TO

DR. J. C. LETTSOM,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS
OF LONDON AND EDINBURGH, &C.

EQUALLY DISTINGUISHED
FOR HIS KNOWLEDGE OF BOTANY,
AND HIS
ZEAL FOR ITS IMPROVEMENT;
THIS WORK,
THAT CONTAINS
THE PHILOSOPHY AND PRINCIPLES
OF A SCIENCE
WHICH FORMS THE FOUNDATION OF THE
HEALING ART,
IS ADDRESSED
BY
THE AUTHOR.

PREFACE.

THE ſubject of BOTANY is one which, of late, has become highly popular. To the Phyſician it is of the firſt importance; for, by a knowledge of it, he is enabled to determine, in many caſes, the general qualities of plants by bare inſpection. In the preſent volume it has been the object, along with BOTANY itſelf, to comprize the different ſubjects connected with it. The Anatomy of Vegetables is firſt detailed, in order that the leading parts of the Vegetable Structure may be firſt underſtood. The Principles of Vegetation, as affecting this Structure, and influencing its growth and qualities, are next detailed. The deſcription of the Linnæan Syſtem, and the ſelection of the Termini Botanici by the late Dr. Hope then follows; and, laſt of all, the Materia Medica of the Vegetable Syſtem is proſecuted on the plan of the Linnæan Arrangement, the generic character being given under the articles. It appeared unneceſſary to deſcend more minutely, or to detail the characters of the ſpecies, which would have rendered this work too prolix, and which its limits would not have admitted.

CONTENTS.

INTRODUCTION, . . Page 1

PART I. GENERAL VIEW OF THE VEGETABLE STRUCTURE.

Of the Trunk, . . . 3

Bark, . . . 4

Its Diviſions.

Epidermis, or Cuticle, . . ib.

Uſes of ditto, . . . ib.

Parenchyma, . . . 5

Cortical Layers, . . . ib.

General Uſe of the Bark, . . . 6

The Wood, ... ib.

Its Diviſions.

Alburnum, . . . 6

Proper Wood, . . . 7

General Uſes of the Wood, . . 8

Corona, ... ib.

The Pith, or Medulla, . . . ib.

Uſes of the Medulla, . . 9

The Branches, . . . ib.

The Root, ... ib.

Uſes of the Root, . . Page 10
The Leaves, . . . ib.
Uſes of the Leaves, . . 11
The Flower, . . . ib.
Parts of the Flower, . . 12
Calyx, ... ib.
Corollæ, . . . ib.
Stamina, including the Flowerets and the Piſtillum, . . . 13
The Seed, or Produce of the Flower, . 14
Parts of the Seeds, . . ib.
Covers, . . . ib.
Cotyledons or Lobes, . . ib.
Young Plant, or Embryo, . . 15
1. Particular Detail of the Vegetable Structure, or a minute Examination of its Parts, . ib.
Vaſcular Syſtem of Vegetables, . ib.
Vaſcular Contents of Vegetables, . 16
Progreſs of Vegetation, . . 17
General Circumſtances neceſſary to Vegetation, 18
Influence of theſe Circumſtances on the Evolution of the Seed, . . 19
Manner of its Evolution, . . 20
Nouriſhment of Plants, . . . 21
Effect of Soil, . . . ib.
Difference of Soils, . . . 22
Circumſtances varying the Nature of the Soil, ib.
Effect of Manures on Soil, . . 24

State of Vegetable Nouriſhment drawn from the Soil, . . . Page ib.
Medium by which it is drawn, . 25
Progreſs of the Nouriſhment, or Sap, when introduced, ... ib.
Chemical Analyſis of it, . . 26
Power by which it is carried on, or the Irritability of the Vegetable Veſſels, . 27
Peculiar Juice of Vegetables, . . ib.
Changes introduced on the Sap in the Leaves, 28
Various Functions of the Leaves, . 29
Introduction of Carbonic Acid through this Medium, ... 30
Of Oxygen through the ſame, 31
Of Water through ditto, .. 32

2. Particular Detail of the Vegetable Economy.

Vegetable Abſorption, . . 35
Its Nature, and as forming the Mode of Vegetable Nouriſhment, . . 41
Vegetable Growth, . . . 43
Progreſs in different Parts of the ſame Vegetable, ... ib.
In different Vegetables, . . 45
Vegetable Secretion, . . 47
Tranſpiration, . 48
Reſpiration, . . 51
Circulation, . . 54
Temperature, . . 55
Senſibility, . . . 57

Vegetable Sleep, . . *Page* 59
Decay, . . 63
Reproduction, . . 65
Natural, by Semination, . 66
Artificial, by Gems, Layers, and Grafts, . . *ib.*
Claſſification of Vegetables, . . *ib.*
Introductory Obſervations on the Organs of Taſte and Smell, . . . 67
Various Senſations of Taſte, . . 68
Simple, . . . *ib.*
Compound, . . . *ib.*
Diverſity of Smell, . . . 69
Mode of applying Vegetables, for Examination, to theſe two Senſes, . . . *ib.*

PART II. CLASSIFICATION.

Compendium of Botanical Language, or Arrangement, as contained in the Termini Botanici of Linnæus, . . . 71—134
Review of the Principal, or Leading Parts of this Arrangement, . . 134—148
Particular Enumeration of the Sexual Parts of Vegetables, . . . 148
Sexual Functions of ditto, . . 149
Marriage of Plants, . . . 150
Facts that ſupport it, . . . 151
Different Modes of effecting Fecundation, 152
Fecundation of the Seed, . . 154
Generation of the Hybride Plant, . 155
Parturition of Plants, . . 156

Analogy between Vegetables and Animals, *Page* 158
General Principles of both, . . *ib.*
Firſt Appearances of both, . . 159
Mode of Nutrition of both, . . 160
Progreſs of Growth in both, . . *ib.*
Linnæan Arrangement, . . . 162
Table of Claſſes, ... *ib.*
General Obſervations on the Claſſes, Orders, and Genera, . . . 162—165

PART III. MATERIA MEDICA.

Detail of the Medical Articles of each Claſs, with the particular Order and generic Character of the Article, . . . 165

CLASS I. MONANDRIA.

Order I. Monogynia.

Amomum Zinziber, ... *ib.*
Cardamomum, . . 166
Granum Paradiſi, . . 167
Coſtus Arabicus, ... *ib.*
Maranta Galanga, . . . 168
Curcuma Longa, . . . *ib.*
Kemferia Rotunda, . . . 169

CLASS II. DIANDRIA.

Order I. Monogynia.

Jaſminum Officinale, . . 170
Olea Europæa, . . . *ib.*
Veronica Officinalis, . . 171
Buccabunga, . . *ib.*
Gratiola Officinalis, . . . *ib.*

Verbena Officinalis, . . Page 172
Monorda Fiſtuloſa, . . . ib.
Roſmarinus Officinalis, . . ib.
Salvia Hortenſis, . . . 173
Horminum, . . . ib.
Sclarea, . . . 174
Collinſonia Canadenſis, . . ib.

Order II. Digynia.

Order III. Trigynia.

Piper Nigrum, . . . ib.
Longum, . . . 157
Cubeba, . . . ib.

Class III. Triandria.

Order I. Monogynia.

Valeriana Officinalis, . . 176
Phu, . . . ib.
Celtica, . . ib.
Tamarindus, . . . 177
Crocus, . . . ib.
Iris Florentina, . . . 178
Fœtida, . . . ib.
Germanica, . . . ib.
Pſeudacoſus, . . 179
Gladiolus Communis, . . ib.
Cyperus Longus, . . ib.
Rotundus, . . ib.

Order II. Digynia.

Saccharum Officinarum, . . 180
Avena Sativa, . . . ib.
Secale Cereale, . . . 181

Hordium Diſtichon, . . Page 181
Triticum Hybernum, . . ib.
Repens, . . . 182

CLASS IV. TETRANDRIA.

Order. I. Monogynia.

Aſperula Odorata, . . . ib.
Galium Verum, . . . 183
Aparine, . . . ib.
Rubia Tinctorum, . . . ib.
Penæa Sarcocolla, . . 184
Plantago Major, . . . ib.
Pſyllum, . . ib.
Sanguiſorba Officinalis, . . 185
Bankſica Abyſſinica, . . . ib.
Dorſtenica Controyerva, . . ib.
Camphoroſma Monſpelienſis, . . 186
Santolum Album, . . . ib.
Alchemilla Vulgaris, . . ib.

Order II. Digynia.

Curſuta Europæa, . . . 187

Order III. Tetragynia.

Ilex Aquifolium, . . . ib.
Caſſine, . . . 188

CLASS V. PENTANDRIA.

Order I. Monogynia.

Lithoſpermium Officinale, . . ib.
Anchuſa Officinalis, . . . ib.
Tinctoria, . . 189
Cynogloſſum Officinale, . . ib.

Pulmonaria Officinalis, . . *Page* 189
Symphytum Officinale, . . *ib.*
Plumbago Europea, . . . 190
Cyclamen Europeum, . . *ib.*
Menyanthes Trifoliata, . . . *ib.*
Lyſimachia Numularia, . . 191
Anagallis Arvenſis, . . . *ib.*
Spigelia Anthelmia, . . 192
Morilandica, . . . *ib.*
Ophiorriza Mungos, . . *ib.*
Convolvulus Jalappa, . . . *ib.*
Scammonia, . . 193
Cinchona Officinalis, . . . *ib.*
Caribbea, . . 194
Anguſtiſolia, . . *ib.*
Corymbiſera, . . *ib.*
Floribunda, . . . 195
Montana, . . *ib.*
Tecamez, . . . *ib.*
Coffea Arabica, . . *ib.*
Pſychotria Emetica, . . 196
Lonicera Diervilla, . . . *ib.*
Symphorecarpus, . . 197
Verbaſcum Thapſus, . . *ib.*
Datura Stramonium, . . *ib.*
Hyoſcyamus Albus, . . 198
Niger, . . . *ib.*
Nicotiana Tabaccum, . . *ib.*
Atropa Mandragora, . . . 199

Atropa Belladona, . . Page 199
Phyſalis Alkekengi, . . 200
Solanum Dulcamara, . . . ib.
Nigrum, . . 201
Capſicum Annuum, . . . ib.
Baccatum, . . ib.
Strychnos Nux Vomica, . . ib.
Volubilis, . . 202
Cordia Myxa, . . . ib.
Rhamnus Catharticus, . . ib.
Frangula, . . . 203
Ziziphus, . . ib.
Ceanothus Americanus, . . ib.
Vitis Vinifera, . . . 204
Lagœcia Cuminoïdes, . . ib.
Nerium Antidyſentericum, . . ib.
Echites, . . . 205
Plumeria, ... ib.
Vinca Minor, . . . ib.
Ribes Rubrum, . . . ib.
Nigrum, ... 206
Hedera Helix, . . . ib.

Order II. Digynia.

Aſclepias Vincetoxicum, . . ib.
Gentiana Lutea, . . . 207
Purpurea, . . . ib.
Centaureum, . . ib.
Chenopodium Ambroiſoides, . . ib.
Anthelminthicum, . 208

Chenopodium Vulvaria, . . *Page* 208
Salſola, ... *ib.*
Ulmus Campeſtris, . . . *ib.*
Eryngium, . . . 209
Sanicula Europea, . . . *ib.*
Damens Carota, . . . *ib.*
Conium Maculatum, . . . 210
Ferula Aſa Fœtida, . . . *ib.*
Laſerpitium Siler, . . . 211
Angelica Archangelica, . . *ib.*
Sylveſtris, . . . *ib.*
Sium Ninſi, . . . 212
Nodiflorum, . . . *ib.*
Siſon Amomum, . . . *ib.*
Bubon Macedonicum, . . *ib.*
Galbanum, . . . 213
Cuminum, . . . *ib.*
Philandrium Aquaticum, . . *ib.*
Cicuta Viroſa, . . . 214
Æthuſa Meum, . . *ib.*
Coriandrum Sativum, . . *ib.*
Imperatoria Oſtuthium, . . . 215
Paſtinaca Opopanax, . . . *ib.*
Anethum Graveolens, . . *ib.*
Fœniculum, . . 216
Carum Carvi, . . . *ib.*
Pimpinella Saxifraga, . . 217
Aniſum, . . . *ib.*
Apium Petroſelinum, . . *ib.*

Apium Graveolens, . . Page 218

Order III. Trigynia.

Rhus Corinaria, . . . ib.
Caſſine Peragua, ... ib.
Sambucus Ebulus, . . . 219
Nigra, . . . ib.
Tamarix Gallica, . . . ib.

Order IV. Tetragynia.

Order V. Pentagynia.

Linum Uſitatiſſimum, . . . 220
Catharticum, . . . ib.

CLASS VI. HEXANDRIA.

Order. I. Monogynia.

Bromelia Ananas, ... 221
Allium, ... ib.
Sativum, . . . 222
Lilium Candidum, . . . ib.
Scilla Maritima, . . . ib.
Aſparagus Officinalis, . . 223
Dracena Draco, . . . ib.
Aloe, ... 224
Acorus, ... ib.
Order II. Digynia, . . . ib.
Oryza, ... 225
Order III. Trigynia, . . . ib.
Rumex Acetoſa, . . . ib.
Acutus, ... ib.
Alpinus, ... 226
Hydrolapathus, . . ib.

Rumex Sanguineus, . . Page 226
Scutatus, . . . ib.
Colchium Autumnale, . . ib.
Orders IV. & V. Tetragynia & Polygynia, 227

CLASS VII. HEPTANDRIA.

Æſculus Hypocaſtanum, . . ib.

CLASS VIII. OCTANDRIA.

Order I. Monogynia.

Trapæolum Majus, . . . 228
Amyſis Elemifera, . . . ib.
Gileadenſis, . . ib.
Zeylandia, . . . ib.
Vaccinium Myrtillus, . . ib.
Vitis Idæa, . . 229
Oxycoccos, . . ib.
Daphne Mezereum, . . . ib.
Laureola, . . . ib.

Order II. Digynia.

Order III. Trigynia.

Polygonum Biſtorta, ... 230

Order IV. Tetragynia.

Paris Quadrifolia, . . . ib.

CLASS IX. ENNEANDRIA.

Order I. Monogynia.

Laurus Cinnamomum, . . . 231
Caſſia, . . . ib.
Cutilanus, . . . 232
Myrrha, . . . ib.
Nobilis, . . . ib.

Laurus Pecunia, . . . Page 233
Saſſafras, . . . ib.
Anacardium Occidentale, . . ib.

Order II. Trigynia.

Rheum Palmatum, . . . 234
Rhaponticum, . . ib.
Undulatum, . . . 235

CLASS X. DECANDRIA.

Order I. Monogynia.

Hymenæa Camboril, . . . ib.
Caſſia Fiſtula, . . . ib.
Senna, . . 236
Myroxylon Peruiferum, . . ib.
Guiacum Officinale, . . ib.
Dictamnus Albus, . . . 237
Ruta Graveolens, . . . ib.
Toluifera Balſamum, . . 238
Hæmatoxylum Campechianum, . . ib.
Sinutinia Mahogani, . . . 239
Quaſſia Amara, . . . ib.
Simaruba, . . . ib.
Ledum Paluſtre, . . . 240
Rhododendron Cryſantheum, . . ib.
Arbutus Uva Urſi, . . . 241
Styrax Officinalis, . . . ib.
Benzoin, . . . ib.
Copaifera Officinalis, . . 242

Order II. Digynia.

Saponaria Officinalis, . . 243

Orders III. IV. & V. Trigynia, Tetragynia, & Pentagynia.

Sedum Acre, *Page* 243
Oxalis Acetocella, 244

Order IV. Decagynia.

Phytolacca Decandra, *ib.*

CLASS XI. DODECANDRIA.

Order I. Monogynia.

Aſarum Europæum, 245
Winterana Canella, *ib.*
Lythrum Salicaria. 246
Garcinia Mangoſtana, *ib.*

Order II. Digynia.

Agrimonia Eupatoria, *ib.*

Order III. Trigynia.

Euphorbia Officinalis, 247
Lathyſis, *ib.*
Paluſtris, *ib.*
Hirſuta, *ib.*
Caneſcens, *ib.*
Perviflora, *ib.*

Order III. Dodecagynia.

Sempervivum Tectorum, *ib.*

CLASS XII. ICOSANDRIA.

Order I. Monogynia.

Cactus Opuntia, 248
Myrtus Communis, *ib.*
Carophyllatus, 249
Pimenta, *ib.*

Punica Granatum, . . *Page* 249
Amygdalus Communis, . . 250
Perſica, ... *ib.*
Prunus Avium, . . . *ib.*
Ceraſus, ... *ib.*
Domeſtica, . . . 251
Lauraceraſus, . . . *ib.*
Padus, . . . *ib.*
Spinoſa, . . . *ib.*

Order III. Trigynia.

Sorbus Aucuparia, . . . 252
Domeſtica, . . . *ib.*

Order IV. Pentagynia.

Meſembryanthemum Cryſtallinum, . *ib.*
Pyrus Communis, . . . 253
Cydonia, . . . *ib.*
Malus, . . . *ib.*
Spiræa Filipendula, . . . *ib.*
Ulmaria, . . . 254

Order IV. Polygynia.

Roſa Canina, . . . *ib.*
Gallica, . . . *ib.*
Damaſcena, . . . 255
Rubus Idæus, . . . *ib.*
Chamænoſus, . . *ib.*
Fragaria Veſca, . . . *ib.*
Potentilla Anſerina, . . 256
Tormentilla Erecta, . . . *ib.*
Geum Rivale, . . . *ib.*

Geum Urbanum, . . Page 257

CLASS XIII. POLYANDRIA.

Order I. Monogynia.

Capparis Spinoſa, . . . ib.
Chelidonium Majus, . . . 258
Papaver Rhæas, . . . ib.
Somniferum, . . . ib.
Gambogia, . . . 259
Caryophyllus Aromaticus, . . 260
Tilia Europea, . . . ib.
Myriſtica Aromatica, . . . 261
Ciſtus Creticus, . . . ib.
Thea Bohea, . . . ib.
Viridis, . . 262
Bixa Orellana, . . . ib.

Order II. Digynia.

Pæonia Officinalis, . . . ib.

Order III. Trigynia.

Delphinium Staphiſagria, . . 263
Aconitum Anthora, . . . ib.
Cammarum, . . . ib.
Napellus, . . . ib.

Order IV. Tetragynia.

Cimicifuga Fœtida, . . . 264

Order V. Pentagynia.

Aquilegia Vulgaris, . . . ib.
Nigella Sativa, . . . ib.

Order VI. Polygynia.

Illicium Aniſatum, . . . 265

Anemone Hepatica, . . Page 265
Nemoroſa, . . 266
Pratenſis, . . . ib.
Clematis Recta, . . . ib.
Vitalba, . . . 267
Ranunculus Abortivus, . . ib.
Flammula, . . ib.
Ficaria, . . . 268
Heleborus Fœtidus. . . . ib.
Niger, . . . ib.
Viridis, . . . 269

CLASS XIV. DIDYNAMIA.

Order I. Gymnoſpermia.

Teucrium Chamydrys, . . ib.
Chamæpitys, . . ib.
Creticum, . . 270
Marum, . . . ib.
Scordium, . . . ib.
Satureja Hortenſis, . . . 271
Hyſſopus Hortenſis, . . . ib.
Nepeta Cataria, . . . ib.
Lavandula Spica, . . . 272
Mentha Auricularis, . . . ib.
Cervina, . . . ib.
Criſpa, . . . ib.
Piperita, . . . 273
Pulegium, . . . ib.
Viridis, . . . ib.
Glecoma Hederacea, . . . ib.

Betonica Officinalis, . . *Page* 274
Marrubium Vulgare, . . . *ib.*
Origanum Creticum, . . . *ib.*
Dictamnus, . . 275
Marjorana, . . *ib.*
Vulgare, . . . *ib.*
Thymus Serpyllum, . . . 276
Vulgaris, . . . *ib.*
Meliſſa Calamintha, . . . *ib.*
Officinalis, . . . *ib.*
Melitis Meliſſophyllum, . . 277
Ocymum Baſilicum, . . . *ib.*

Order II. Angioſperma.

Anthirrinum Linaria, . . . *ib.*
Scrophularia Aquatica, . . . 278
Nodoſa, . . . *ib.*
Digitalis Purpurea, . . . *ib.*
Linnæa Borealis, . . . 279
Seſamum Orientale, . . . *ib.*
Avicennia Tomentoſa. . . *ib.*
Bignonia Ophthalmica, . . 280

CLASS XV. TETRADYNAMIA.

Order I. Siliculoſa.

Lepidium Sativum, . . . *ib.*
Cochlearia Armoracia, . . . 281
Officinalis, . . . *ib.*

Order II. Siliquoſa.

Raphanus Sativus, . . . 282
Eryſimum Alliaria, . . . *ib.*

Eryſimum Barbarea, . . Page 282
Chieranthus Cheiri, . . . ib.
Braſſica Oleracea, . . . 283
Eruca, . . . ib.
Rapa, ... ib.
Cardamine Pratenſis, . . 284
Siſymbrium Naſturtium, . . ib.
Sophia, . . . ib.
Tenuifolium, . . ib.
Sinapis Alba, ... 285
Nigra, . . . ib.
Crambe Orientalis, . . . ib.

Class XVI. Monadelphia.

Order I. Decandria.

Geranium Moſchatum, . . 286
Robertianum, . . ib.

Order II. Dodecandria.

Pentapetes Muhucanda, . . ib.

Order III. Polyandria.

Althea Officinalis, . . . 287
Alcea Roſea, . . . ib.
Malva Rotundifolia, . . . 288
Hibiſcus Abelmoſchus, . . ib.

Class XVII. Diadelphia.

Order I. Hexandria.

Fumaria Officinalis, . . . ib.

Order II. Octandria.

Polygala Amara, . . . 289
Senega, . . . ib.

Order III. Decandria.

Pterocarpus Draco, . . *Page* 290
Santalinus, . . *ib.*
Spartium Scoparium, . . . *ib.*
Geniſta Canarienſis, . . 291
Tinctoria, . . *ib.*
Ononis Arvenſis et Spinoſa, . . *ib.*
Dolichos Ureno, . . . 292
Pruriens, . . . *ib.*
Vicia Faba, ... *ib.*
Glycyrrhiza Glabra } Echinata } . . *ib.*
Geoffrœa Inermis, . . : 293
Surinamenſis, . . . *ib.*
Indigofera Tinctoria, . . . *ib.*
Aſtragalus Excapus, . . . *ib.*
Tragacantha, . . 294
Trifolium Melilotus, . . . *ib.*
Repens, . . . *ib.*
Trigonella Fœnum-Græcum, . . *ib.*

Class XVIII. Polyadelphia.

Order I. Pentandria.

Theobroma Cacao, . . . 295

Order II. Icoſandria.

Citrus Medica, . . . 296
Aurantium, . . . *ib.*

Order III. Polyandria.

Melaleuca Leucadendron, . . 297
Hypericum Perforatum, . . *ib.*

CLASS XIX. SYNGENESIA.

Order I. Polygamia.

Tragopagon Pratenſe, . . . *Page* 298
Lactuca Sativa, . . . *ib.*
Viroſa, . . . *ib.*
Leontodon Taraxacum, . . . 299
Hieracium Piloſella, . . . *ib.*
Cichorium Intybus, . . . *ib.*
Endivia, . . . 300
Arctium Lappa, . . . *ib.*
Carduus Marianus, . . . *ib.*
Onopordon Acanthum, . . . *ib.*
Cinara Scolymus, . . . 301
Carlina Acaulis, . . . *ib.*
Carthamus Tinctorius, . . . *ib.*
Spilanthus Acmella, . . . 302
Eupatorium Cannabinum, . . . *ib.*
Santolina Chamæcypariſus, . . . *ib.*

Order II.

Tanacetum Vulgare, . . . 303
Balſamita, . . . *ib.*
Artemiſia Abrotanum, . . . *ib.*
Abſinthium, . . . 304
Campeſtris, . . . *ib.*
Dracunculus, . . . *ib.*
Glacialis, . . . *ib.*
Maritima, . . . *ib.*
Pontica, . . . *ib.*
Rupeſtris, . . . *ib.*

Artemiſia Santonica, . . *Page* 305
Vulgaris, . . . *ib.*
Erigeron Acre, ... *ib.*
Tuſſilago Farfara, . . . *ib.*
Petaſites, . . . 306
Senecio Vulgaris, . . . *ib.*
Solidago Virga Aurea, . . *ib.*
Inula Helenium, . . . 307
Dyſenterica, . . . *ib.*
Arnica Montana, . . . *ib.*
Doronicum Latifolium, . . 308
Matricaria Chamomilla, . . *ib.*
Parthenium, . . 309
Anthemis Catula, . . . *ib.*
Nobilis, . . . *ib.*
Pyrethrum, . . *ib.*
Achillea Ageratum, . . 310
Atrota, . . . *ib.*
Millifolium, . . . *ib.*
Ptarmica, . . . *ib.*
Sigeſbeckia Orientalis, . . . 311

Order III.

Centaurea Behen, . . . *ib.*
Benedicta, . . *ib.*
Calcitrappa, . . 312
Cynamus, . . . *ib.*

Order IV.

Calendula Officinalis, . . . *ib.*

Order V. Monogynia.

Lobelia Siphyllitica, . . *Page* 313
Longiflora, . . . *ib.*
Tupa, . . . *ib.*
Viola Canina, . . . *ib.*
Ipecacuhana, . . . *ib.*
Odorata, ... *ib.*
Tricolor, . . . 314

CLASS XX. GYNANDRIA.

Order I. Diandria.

Orchis Maſcula, Militaris, Morio . . . *ib.*
Epidendrum Vanilla, . . . 315

Order II. Hexandria.

Ariſtolochia Clematitis, . . . *ib.*
Longa et Rotunda, . *ib.*
Serpentaria, . . 316
Trilobata, . . *ib.*

Order III. Dodecandria.

Cytinus Hypocyſtis, . . . *ib.*

Order IV. Polyandria.

Arum Maculatum, . . . 317
Zoſtera Marina, . . . *ib.*

CLASS XXI. MONOECIA.

Order I. Monandria.

Cynomorium Coccinium, . . 318

Order II. Triandria.

Carex Arenaria, . . . *ib.*

Phyllanthus Emblica, . . *Page* 319

Order III. Tetrandria.

Betula Alba, ... *ib.*
Buxus Sempervirens, . . . *ib.*
Urtica Dioica, ... 320
Pilulifera, . . . *ib.*
Urens, . . . *ib.*
Morus Nigra, . . . 321

Order IV. Pentandria.

Xanthium Strumarium, . . *ib.*

Order V. Polyandria.

Poterium Sanguiſorba, . . 322
Quercus Robur, . . . *ib.*
Cerris, . . . *ib.*
Suber, . . . 323
Juglans Regia, ... *ib.*
Corylus Arillana, . . . *ib.*
Liquidambar Styraciflua, . . 324

Order VI. Monodelphia.

Pinus Abies, . . . *ib.*
Balſamica, . . . 325
Canadenſis, ... *ib.*
Cimbra, . . . *ib.*
Larix, ... *ib.*
Munchos, . . . *ib.*
Pinea, ... *ib.*
Picea, . . 326
Sylveſtris, . . . *ib.*
Thuya Occidentalis, . . . *ib.*

Croton Caſcarilla, . . *Page* 327
Lactiferum, . . . *ib.*
Jatropha Elaſtica, . . . 328
Manihat, . . . *ib.*
Ricinus Communis, . . . *ib.*

Order VII. Syngeneſia.

Momordica Elaterium, . . 329
Cucumis Colocynthis, . . *ib.*
Melo, ... 230
Sativus, . . . *ib.*
Cucurbita Lagenaria, Pipa, Citrullus, . . . *ib.*
Brionia Alba, . . . *ib.*

CLASS XXII. DIOECIA.

Order I. Diandria.

Salix Alba, ... 331
Caprea, . . . *ib.*
Fragilis, . . . *ib.*
Pentandra, . . . *ib.*
Vitulina, . . . *ib.*

Order II. Tetandria.

Viſcum Album, . . . 332
Myrica Gale, . . . *ib.*

Order III. Pentandria.

Piſtachia Vera, . . . 333
Terebinthinus, . . *ib.*
Lentiſcus, . . . *ib.*
Cannabis Sativa, . . . 334

Humulus Lupulus, *Page* 334

Order IV. Hexandria.

Smilax Sarſaparilla, 335
China, *ib.*

Order V. Octandria.

Populus Nigra, *ib.*
Balſamifera, 336
Rhodiola Roſea, *ib.*

Order VI. Enneandria.

Mercurialis Annua, *ib.*

Order VI. Dodecandria.

Meniſpermum Cocculus, 337

Order VIII. Monodelphia.

Juniperus Sabina, *ib.*
Communis, 338
Lycia, *ib.*
Ciſſampelos Pareira, 339

Order IX. Syngeneſia.

Ruſcus Aculeatus, *ib.*
Hypogloſſum, *ib.*

Class XXIII. Polygamia.

Order I. Monecia.

Veratrum Album, 340
Nigrum, 341
Sabadilla, *ib*
Andropogon Nardus, *ib.*
Parietaria Officinalis, *ib.*
Mimoſa Catechu, 342

Mimoſa Nilotica, . . *Page* 342
Senegal, ... *ib.*

Order II. Diœcia.

Fraxinus Excelſiòr, . . . 343
Rotundifolia, . . *ib.*
Pânax Quinquefolium, . . . *ib.*

Order III. Triœcia.

Ceratonia Siliqua, . . . *ib.*
Ficus Carica, ... *ib.*

CLASS XXIV. CRYPTOGAMIA.

Order I. Filices, or Ferns.

Equiſetum Arvenſe, . . . *ib.*
Pteris Aquilina, . . . 346
Aſplenium Catarach, . . . *ib.*
Polypodium Vulgare, . . . *ib.*
Filix Mas, . . . *ib.*
Adianthum Capellus Veneris, . . 347

Order II. Muſci, or Moſſes.

Lycopodium Clavatum, . . . *ib.*
Selago, . . . *ib.*

Order III. Algæ, or Flags.

Lichen Aphthoſus, . . . 348
Caninus, . . . *ib.*
Cocciferus, . . . *ib.*
Iſlandicus, . . . *ib.*
Plicatus, . . . 349
Pulmonarius, . . . *ib.*
Roccella, . . . *ib.*

Conferva Rivularis, . . Page 349
Helminthochorton, . . ib.
Fucus Veſiculoſus, . . . 350

Order IV. Fungi, or Muſhrooms.

Agaricus Muſcarius, . . . ib.
Boletus Laricinus, . . . ib.
Igniarius, . . . 351
Suaveolens, . . . ib.
Peziza Auricula, . . . ib.
Lycoperdon Boviſta, . . . ib.
Tuber, . . . ib.

PALMÆ.

Phœnix Dactylifera, . . . 352
Sagus Farinaria, . . . ib.
Coccos Butyracea, Nucifera, . . . ib.

THE
HISTORY
OF
BOTANY.

I.

THE origin of Botany, like that of the other ſciences, is obſcure; and the firſt regular traces of it are to be found in the works of Theophraſtus. In detailing its hiſtory from this period, it may be divided into ſeven different æras, illuſtrated by certain progreſſive advances made in the ſubject.

II.

The *firſt*, the Grecian æra, or that of Theophraſtus, marked Botany as a regular ſcience, began to arrange the objects of it into ſeven primary claſſes, and included in theſe claſſes about 500 different plants.

III.

The *ſecond*, or the Roman æra, was little favourable to the advancement of Botanical knowledge. It began with Dioſcorides, who formed only an arrangement of four claſſes, and deſcribed about 600 plants; and it ended with Pliny the Elder, who deſcribed a great number of plants, to the amount of 1100; but employed no arrangement at all.

IV.

The *third* æra, including the long dark æra of Gothic barbariſm, ſhewed no improvement in the progreſs of this ſcience. Even on the revival of Literature, the Botany of the Antients was merely reſtored without any alteration; and the firſt hint of Syſtematic, or what we may term Scientific, Botany, aroſe with Geſner, and was proſecuted by Ceſalpinus, taking the fruit for the foundation of its arrangement, and dividing the whole into fifteen claſſes.

V.

The *fourth* æra comprehends the period from Ceſalpinus to Moriſon, who improved on his plan, by taking the flower as well as the fruit, and arranging the ſubject into eighteen claſſes. During this period many eminent Botaniſts appeared, who benefited the Science by their deſcriptions more than by any attempts at arrangement.

VI.

The *fifth* æra is, the introduction of a new ſyſtem by Ray, founded on that of Moriſon, and dividing the ſubject into 33 claſſes. But this method, though followed and improved on by many of the firſt Botaniſts of that period, was ſtill very imperfect in its execution, with a view to facilitate the knowledge of plants.

VII.

From this period, however, the ſyſtems of Claſſification increaſed; and thoſe of Kaunt, Herman, and Boerhaave, are all entitled to a certain degree of praiſe. Rivinus was the firſt who forſook the natural method, and, attaching himſelf to the flower, divided the ſubject into eighteen claſſes. He was followed by Tournefort, who extended them into a greater number; and at laſt the reputation of theſe different attempts became ſunk in that of the celebrated Linnæus.

VIII.

From the publication of Linnæus's method, every other has given place to it; and the explanation of the Sexual Syſtem remains now unſhaken, and the Linnæan Claſſification has been univerſally adopted.

INTRODUCTION.

I.

BOTANY comprehends a knowledge of thoſe ſubſtances which compoſe the vegetable kingdom; and this knowledge conſiſts in an acquaintance with the ſtructure of vegetables, the principles of vegetation, and the particular forms or arrangement of bodies, termed their claſſification.

II.

This knowlege is chiefly attained by examining attentively the nature of vegetables, as diſcovered by their application to the ſenſes.

III.

The ſenſes employed for this purpoſe are;

1. The ſight, which, with the aſſiſtance of glaſſes, detects their ſtructure and the arrangement of their œconomy; and,

2. The taſte and ſmell, which diſcovers their ſenſible qualities.

PART I.

VEGETABLE STRUCTURE.

I.

FROM the application of the firſt, we find the ſtructure of all vegetables to conſiſt of two parts, a ſolid and a fluid.

The ſolids of plants, like thoſe of animals, conſiſt of fibres, adapted to give a proper ſupport to their various parts.

The intermixture of theſe fibres, in various forms, compoſe the membranes, cellular ſubſtance, receptacles, and veſſels.

And thus, again, from the more ſimple parts ariſe the principal diviſions of the vegetable organization, as the trunk, root, and leaves, and the temporary parts connected with fructification.

II.

The Trunk.

The trunk of a tree is compoſed of three different parts, known by the ſeveral appellations of the bark, the wood, and the pith.

III.

The Bark.

The bark is compoſed of ſeveral diviſions.

The firſt, the epidermis, or cuticle, is the external covering, formed of fibres, which croſs each other in every direction, and is a dry, thin, reticular membrane, pretty tough, and generally ſingle, though in many plants different layers in it may be traced. It varies in its ſtructure in different parts of the ſame vegetable, and conſiſts of three different parts, as diſcovered by the microſcope; which are,

1. Its longitudinal veſſels that nouriſh the other parts, and have openings into them.

2. The blæ, which conſiſts of ſmall capſules open at top; and,

3. Its interſtitial ſpaces.

IV.

The uſes of the cuticle are to preſerve porous the extreme parts of the plant, to check at the ſame time the too ſudden evaporation of moiſture from it, and to leſſen the ſenſibility of the more internal parts to the action of the external agents. Hence it is eaſily reproduced when deſtroyed. In old trees it cracks and decays, and is again formed; and from it alſo we can generally judge of the health of the plant. Its texture is ſometimes ſo thin, that the direction of the fibres are conſpicuous by holding it to the light. The parts below are protected by it from the too great influence of the atmoſphere. When it is regenerated, it adheres more firmly to the cortex, and forms a kind of cicatrix or ſcar.

V.

The parenchyma, of a deep green colour, is the ſecond diviſion of the bark, ſituated immediately below the epidermis, ſoft and ſucculent in its texture, and formed by an inter-texture of fibres croſſing in every direction. It is univerſally extended over the plant, and even penetrates its innermoſt ſubſtance, though it then changes its appearance. In its natural ſtate it is ſpongy, and poſſeſſes every where pores that ſecrete a fluid of a watery colour, rendering it full of juice. Its ſtructure much reſembles the cuticle, though its veſſels are larger; and it receives an alteration from the influence of the weather.

VI.

The cortical layers form the next part of the bark. They are compoſed of longitudinal fibres or veſſels matted in ſuch a manner as to reſemble a kind of net-work, and each of theſe fibres may be ſubdivided into ſtill ſmaller ones. It is in this part of the plant, as by a tranſverſe ſection, we find the vaſa propria reſide, which ſecrete the particular juices for which different plants are diſtinguiſhed. From this difference of the juice ſecreted, the organization of the latter we ſuppoſe different in different bodies, and alſo in different parts of the ſame body; though, as far as we can detect, they conſiſt either of a ſimple trunk, or of ſeveral ſmall tubes united into one trunk.

VII.

The chief uſe of the bark is to form the wood; and few trees, therefore, ſurvive the loſs of it in a healthy ſtate. By it, alſo, the functions of perſpiration and abſorption are performed.

VIII.

The importance of theſe two laſt parts are conſpicuous. They appear to be parts very eſſential to the life of the vegetable, for in them the principal functions of life, as nutrition, digeſtion, ſecretion, &c. are performed. This appears in thoſe trees which are hollow within, and in plants which are kept in vigour by the good ſtate of their barks, although rotten internally.

IX.

The Wood.

The bark is connected to the next part, or the *wood*, which differs nothing from it in its ſtructure, but in its farther condenſation; and hence its parts are more difficult to diſtinguiſh. It is divided into two parts, the alburnum and proper wood.

X.

The alburnum is compoſed of a ſoft white ſubſtance, more juicy than the reſt, though not eaſily diſcernible in ſome trees; but in the oak and elm it is harder and more apparent. It is, in its previous ſtage, imperfect wood, not having acquired its proper degree of conſiſtence, and is ſimilar to cartilages of animals when compared with bone. Thus it is the ſtate between bark and wood, a ſtate the former muſt arrive at before it can become the latter. The hardneſs of the alburnum is proportioned to the vigour of the plant.

XI.

The wood, or lignum, forms by far the greateſt part of the trunk and branches of trees. It is a pact fibrous ſubſtance, diſpoſed into concentric layers, increaſing with the age of the plant, ſurrounding the medulla or pith. It appears to be compoſed of a congeries of dried veſſels, being, in annual and biennial plants, termed the fleſh. But, beſides its longitudinal veſſels and vaſa propria, the firſt of which are ſeen by the cleaving of the wood, and the ſecond in the different coloured woods, as deriving their colour from this ſource, a ſort of cavities or large veſſels appear, having their coats formed in a ſpiral manner, which can be traced in all parts of the plant, except the bark from one extremity to the other, and are found always empty.

XII.

Theſe we conſider as the air veſſels of the plant, in which the air imbibed by the plant, and neceſſary to the vegetable exiſtence, receives a certain change ſimilar to that taking place in the lungs of animals, and from this change it acts as an internal ſtimulus, promoting the growth of the plant.

XIII.

The uſe of the wood is to give ſolidity to the different parts of the plant, in the ſame manner as the bones afford ſtrength to animals, and in many vegetables a certain degree of this ſolidity depending on its number of woody ſtrata is required before their fructification can take place.

XIV.

After the wood, the next and more internal part of the plant is the corona, which, though it forms properly a part of the medulla, conſiſts of a ſtratum of cellular matter between the wood and pith, in which the vital principle of the vegetable is ſuppoſed to reſide; and in its ſtructure, on examination, it diſcovers the ſame conſtituent parts as in the other diviſions deſcribed.

XV.

The Pith, or Medulla.

The laſt diviſion of the vegetable body, is into the pith or medulla, which is ſoft, veſicular, and differs from cellular texture by its ſnowy white colour: when dry, it is changed into a brown appearance. In its ſtructure, internally, it is cellular, and is not continued uniformly through the plant, but in many diſcovers interſtices or interceptions, ſo that its parts are placed as it were in a ſeptum. During the growth of the vegetable while young, it exiſts in greateſt quantity; and, as the woody ſtrata increaſe, it leſſens, and is found often entirely ſhrivelled, and at length diſappears. Thus it forms a neceſſary ſupport to the youth of the plant, but it gradually becomes leſs neceſſary with age; and, perhaps, there is reſerved a ſuperfluous nutriment in the medulla, leſt the young plant becoming dry, it may be abſorbed and converted into aliment, in the ſame way as the ſat is occaſionally taken up in animals.

XVI.

Its uſe, therefore, appears to aſſiſt the growth of the plant by ſupplying it with a quantity of juice, and hence its extent is very general, and connected with the degree of rapidity in which the increaſe of the plant proceeds.

XVII.

Branches.

As the branches form a part of the trunk, they agree with it in the ſame ſtructure, and deſerve no particular deſcription.

XVIII.

The Root.

The root of trees, though only a continuation of the trunk, from its ſituation in the earth the parts are rendered leſs conſpicuous. This ſimilarity of ſtructure is confirmed from this circumſtance; that if the trunk of any tree be torn up, and inverted, ſo that the trunk and branches are put into the ground; then the part, which was originally trunk and branches, becomes root, and the root is converted into trunk and branches.

By the root a foundation or ſupport is afforded to the tree, for by them is it fixed in the earth, and prevented from being torn up by the wind.

Through the ſmaller parts of the root, or the radicles, which are every where given off from the root and its ramifications, is abſorbed a nutritious juice from the earth, for the increaſe, &c. of the vegetable.

XIX.

The Leaves.

The bark gives origin to the leaves of the plant, which are attached to the branches by ſhort footſtalks that iſſue out a number of fibres which ramify and communicate over the whole leaf. Theſe fibres may be ſeparately obtained by the leaf being kept long moiſt; for every other part, in conſequence of putrefaction, ſeparates, and leaves the fibrous texture alone. Thus a leaf conſiſts of an epidermis, a vaſcular net-work, and a parenchyma full of a greeniſh juice. Their fibres are perhaps improperly called the nerves of the leaf, being merely its veſſels running in every direction, and branching out into innumerable ſmall threads, interwoven with the parenchyma, like a fine gauze or lace.

The epidermis or cuticle of a leaf, like that of an animal, is plentifully ſupplied with pores, by which both reſpiration and abſorption of various matter, as dew, air, &c. are performed. Theſe pores or orifices differ both in ſhape and magnitude in different plants, and hence the variety of texture apparently peculiar to every plant. The epidermis covers the whole leaf, and contains in it a number of plants.

The arrangement of the parenchyma is into extremely ſmall cells, varying in ſize in the ſame leaf, and which are made up of very minute fibres.

Whatever is the figure of the leaves, they are circumſcribed by the bounding of the other parts by a marginal fibre. The figure of the leaf is determined by the peculiar ſhape of the fibrous part.

By the leaves is the plant nouriſhed. The nutritious juice is reſerved for this purpoſe in their parenchymatous ſubſtance. They alſo expire and inſpire air and water.

XX.

The Flower.

The ultimate purpoſe of all the parts of a plant are directed to its fructification. The particular part connected with this is the flower, on which its generation depends; hence the rudiment or firſt beginning of the fruit is in the flower, of which it makes a part.

The flower is a temporary appendage of vegetables, like the maternal part of the ovum in the human ſubject. It terminates the exiſtence of the old vegetable, and it gives origin to the new. It conſiſts of ſeveral principal parts, namely, the calyx, corolla, ſtamina, piſtillum, pericarpium, ſemina, and receptacle; the four firſt belong properly to the flower, and the three laſt to the fruit.

1. The outer huſk, or cover of the flower, is termed the calyx, empalement, or flower-cup, being the termination of the outer-bark of the plant, which, after having pervaded the trunk and branches, aſſumes in the flower this particular form, and alſo attends the fructification. This part is of a firm conſiſtence, and ſerves to cover and protect the more delicate parts of the flower within. It receives different appellations according to the circumſtances with which it is attended. It is ſmooth within, and ſometimes only a temporary part.

2. The corollæ are the next part to the calyx, or leaves of the flower. They are properly the continuation of the inner bark, and attend the fructification in the form of foliage. They are diſtinguiſhed by their colour, and by being the ſeat of odor in the plant. Their uſe is the ſame as the calyx, ſerving as a work of defence for the incloſed

parts. Thus the calyx protects the outer, while the corolla protects the inner parts. The leaves, of which the corolla conſiſts, are called petals. They are poſſeſſed of more ſenſibility than the calyx. They receive different names according to their number, form, &c.

3. The next part is the ſtamina, threads or chives, which are the male part of the flower, deſigned for the preparation of the pollen, and which conſiſt of the filaments and piſtillum. The former is compoſed of the foot-ſtalk, and the anthera or button at top, which is generally capſular, and contains the pollen, farina fecundans, or meal, which is fine duſt ſecreted therein, and deſtined for the impregnation of the germen. Each portion of this meal is by a microſcope ſeen to be concealed in a very fine pellicle (which at the time of impregnation burſts) containing the prolific liquor.

The latter, the piſtillum, piſtil or pointal, is the female part of the flower, deſigned for the reception of the pollen, and conſiſts of two parts. The undermoſt is the vegetable uterus, and when in flower is termed the germen, and when in ſeed the pericarpium. It differs conſiderably in its ſtructure in different vegetables, and the ſeeds are attached to it by ſmall filaments, by means of which they receive nouriſhment. It differs from the animal uterus in being renewed every time of fructification. Its under part is termed the ſtyle or ſtigma. The pericarpium of ſeveral vegetables has a conſiderable quantity of a proper juice contained in a parenchymatous ſubſtance, or in veſicles, every where ſupplied with very minute air and ſap veſſels. Theſe are called fruits.

XXI.

The Seed.

The ſemina, or ſeeds, form a deciduous part of the vegetable. In this part the rudiments of a new production, or vegetable, are contained. Hence the ſeed poſſeſſes a vital principle derived from the operation of the pollen, and which it ſtrongly retains for an immenſe length of time.

The ſeeds differ much in their figure and ſize. They are compoſed of three parts, their covers, their lobes, and the embryo plant.

1. The covers are two, the external and the internal. The former are thin and dry, the latter ſpongy and ſucculent. They are both temporary parts, and periſh in the early ſtages of germination.

2. Within the covers are ſituated the cotyledons or lobes, though in many there is only one; and of theſe lobes the nutritious part of the ſeeds is chiefly formed. They ſeem in their uſe to ſerve the ſame purpoſe as the placenta in animals does to the fœtus, conveying nouriſhment to the young plant.

3. The young plant is ſituated between the lobes, and attached to them by ſmall faſciculi of veſſels ſent off from it to each; and, as ſoon as the young plant comes up, we obſerve the leaves different in ſhape and conſiſtence from the others, which are termed the ſeminal ones, and aſſiſt in conveying it nouriſhment.

XXII.

The laſt part of the flower to be noticed is the receptacle, which is the baſe that connects the other parts of it together.

XXIII.

Such is a general view of the chief parts of the vegetable ſtructure, and from this view we are led to conclude that it conſiſts chiefly of fibre, with a cellular tiſſue involving it. In the ſtructure of the tree, theſe parts are formed into a number of remarkable organs. The graſſes differ, as containing a ſmaller proportion of ligneous fibres, and the ſeeds and flowers reſemble the wood and bark.

But in this examination of vegetables, the extent and arrangement of the veſſels, and the various nature of their contents, merit a more particular detail.

XXIV.

Vaſcular Syſtem of Vegetables.

Like the animal, the vegetable ſtructure is highly vaſcular. Its veſſels are diſpoſed in a regular order, and covered by a fibrous delicate texture. Through them the vegetable is enabled to perform its various functions; and the different changes which its fluids undergo, take place through this ſecretory medium.

XXV.

The veſſels of vegetables are, perhaps, equally varied as thoſe of animals in their form, texture, and uſes; hence an arrangement of them has been made by phyſiologiſts into five different kinds.

The 1*ſt* is the ſuccous, which, opening by abſorbent mouths or pores, aſcend perpendicularly, and carry the nouriſhment of the vegetable to every part.

The 2*d* is the utriculous, conſpicuous on cutting the trunk, ſituated in the cellular texture, and obſerving a horizontal direction in their courſe.

The 3*d* are the few that pervade the medulla, having the ſame horizontal direction as the former, but inſulated and irregular in their ſituation.

The 4*th* are the proper, which accompany the larger ſuccous ones.

The 5*th* are the ſpiral ones, which run in a contorted form, are ſurrounded by the firſt diviſion, or the ſuccous being placed immediately under the external ſkin, and ſerve both for the conveyance of air and nouriſhment to the plant.

XXVI.

Vaſcular Contents of Vegetables.

Correſpondent to theſe various diviſions of the veſſels, are alſo in ſome degree the nature of their contents; for,

1. There appears in every vaſcular part a common watery fluid, analagous to the blood of animals, and from which the other parts are ſeparated; and this watery part is moſt abundant in the wood, and circulates both up and down for the nouriſhment of the different connected parts.

2. There is found a juice or ſecreted fluid proper to each vegetable, ſeparated from the former particularly by the veſſels which occupy a ſituation between the bark and alburnum; and this fluid is different both in colour, conſiſtence, and qualities, in different vegetables.

XXVII.

Such being the general ſtructure of the vegetable body, which firſt appears in the form of a ſeed, with a view to underſtand the nature of its œconomy, we muſt trace the gradual changes which attend its progreſs from this ſtate.

XXVIII.

Progreſs of Vegetation.

The firſt change of the ſeed, when favourably placed, is the converſion of one part into a root or radicle, while another part, its plumula, riſes above the earth, and aſſumes the form of a trunk or ſtem. This is the commencement of germination, a proceſs which is regulated by different circumſtances unconnected with the ſeed itſelf.

XXIX.

Circumſtances neceſſary to Vegetation.

1. The firſt of theſe circumſtances is the acceſs of moiſture in a certain degree; and this degree is regulated by the nature of the plant. Thus no plant will germinate without moiſture; and germination alſo may be deſtroyed by too much of it.

2. The ſecond circumſtance neceſſary to vegetation, is the degree of temperature; and this is regulated in ſome meaſure by the conſtitution of the plant, for each plant is attached to a particular temperature. Hence their appearance at different times of the ſeaſon; and hence the freezing point, as well as a very high temperature, is equally unfriendly in the greater number of inſtances to this proceſs.

3. The third circumſtance eſſential to the proceſs is the admiſſion of atmoſpheric air, for no plant will grow in the receiver of an air pump; but on farther experiments, the part of the atmoſpheric air moſt friendly to this proceſs, is its portion of oxygen or vital gas.

4. The fourth circumſtance friendly to this change, is the excluſion of light. Thus plants germinate beſt in the ſhade, and thus the ſoil is neceſſary to cover the ſeed.

XXX.

On the ſeed, the influence of theſe circumſtances are applied to two important purpoſes. The firſt is;

1. The preparation of the nouriſhment of the young plant; and

2. The ſecond is the evolution of its ſeveral parts or organs.

XXXI.

The abſorption of moiſture naturally gives place as a conſequence to the extrication of carbonic acid gas, and this extrication produces a diminution of carbon, and an exceſs of hydrogen in the farina of the ſeed. By the abſorption of oxygen at the ſame time, and its retention in the cottyledon, the farina of the latter acquires a ſweet taſte, or is converted into ſugar; and along with this abſorption of oxygen, an evolution of heat enſues. The effect of theſe chemical changes proceeds. Veſſels next appear in the cottyledons, which paſs to the radicle of the plant, and thus a communication is opened between the vegetating power and the future production.

XXXII.

This communication produces an increaſe of the radicle, which ſinks into the earth and becomes a root, but for long its dependance is placed on the veſſels of the cottyledon, and the ſeparation of them deſtroys the farther progreſs of the proceſs.

XXXIII.

As the radicle thus increaſes, the cottyledons alſo advance in their change. They gradually riſe above the ground, being converted into leaves, termed ſeminal ones; and the plumule, expanding in the ſame manner, ſhoots forth into branches and leaves, at which point the ſeminal ones decay, and no part of the cottyledons is longer required. Till, however, the plumule arrives at this perfect ſtate, the loſs of the cottyledons is felt, and the vegetation is not entirely deſtroyed by the removal of the ſeminal leaves, yet the future production is much injured in its growth.

XXXIV.

The effect of germination, then, from this view, is the acquiſition of life and growth; and this growth, after the completion of the different parts of the plant, gradually extends, being regulated by the nature of the plant, and by the circumſtances of the ſeaſon and the ſoil.

XXXV.

Every ſeaſon, however, diſplays an increaſe of bulk. New ſhoots ariſe from the roots, the old ones ſwell and enlarge. The branches and trunk receive the ſame proportional increaſe, and thus new matter is conſtantly adding, and this addition muſt be taken in by the organs of the plant, or drawn from an extraneous ſource, as a conſequence of its exceſs of nouriſhment.

XXXVI.

Nouriſhment of Plants.

From the neceſſity of moiſture to vegetation, from the uſe of rain and dew, and from experiments in the watering of plants, this fluid muſt conſtitute the principal part of the vegetable nouriſhment. This opinion, however, ſo long prevalent, has been invalidated by late experiments; and inſtead of being the proper food, it is rather the means of diffuſing through the plant another principle to which their nouriſhment is more properly referred.

XXXVII.

This principle is their portion of carbon; and during vegetation, all plants receive an increaſe of this matter, which is neceſſary to their perfection and ſemination, and even to the period of their actual vegetation: yet, independent of this, water is ſtill to be regarded as a part of their nouriſhment, and the quantity in which it is proper, is determined by the particular nature of the plant, and by the ſoil in which it is placed.

XXXVIII.

Soils.

All ſoil conſiſts of two parts, a quantity of ſimple earthy particles which gives a foundation to the plant, and ſerves for its ſupport, and of various other matters involved in this ſimple earth, which applied to the vegetable root, are taken up, and enter into the plant. By the union then of theſe two parts is ſoil formed.

XXXIX.

In ſoils, a conſiderable difference prevails, according to the proportion of theſe principles preſent in them, and according to the nature of the earthy particles with which they are united. Hence ſoils fall to be conſidered as of various ſpecies, in all of which one or other of the following earths will more or leſs predominate, ſilica, lime, alumina, and magneſia. The firſt conſtitutes a dry ſoil, the third a wet ſoil, and the ſecond and fourth are intermediate ones between theſe two extremes.

XL.

In nature, however, theſe ſoils are not found uniform. One of the firſt noticed is the calcarious ſoil, in which an exceſs of lime prevails. The ſecond is the ſoil produced by the decompoſition of putrid, animal, and vegetable matter. The third is a mixed ſoil, or loam, conſiſting of a modification of the two former, being eſpecially the effect of art and mechanical mixture. The fourth ſoil is clay, diſtinguiſhed for the exceſs of aluminous earth, with a proportion alſo of the calcarious, ſiliceous, and other matters. The fifth are ſandy or gravelly ſoils, which vary in fertility according as the ſand is ſilicious, aluminous, or calcarious, the firſt being the leaſt ſo. The laſt ſoil is the bituminous, which contains an exceſs of oily and carbonic matter.

XLI.

The quantity of rain, however, falling in a country, will much determine the proportion of earths in a ſoil; and from this difference of ſoils, the quantity in which water is admitted alſo to the plant through them, as nouriſhment, will likewiſe be various.

XLII.

But, beſides water and carbon, plants alſo contain a portion of earth in their compoſition. This muſt no doubt be drawn in from the ſoil; and if thus drawn in, earth too muſt form a certain portion of their nouriſhing principle.

XLIII.

Various other matters are contained in the ſoil, and theſe matters are alſo found more or leſs as principles of the vegetable body. Soils alſo are found moſt prolific from manures, in which theſe matters are moſt abundant. Hence ſuch matters may form, perhaps, a part of the vegetable nouriſhment, and it is from this ſource the carbon neceſſary to vegetation is derived.

XLIV.

Theſe manures conſiſt of ſubſtances taken from the vegetable, foſſile, or animal kingdoms; and in their uſe particular attention ſhould be paid to the nature of the ſoil requiring their application. The principal manures employed conſiſt of lime and its carbonate, particularly in the form of marles, with ſiliceous earths and aluminous-clays, and alſo in the form of ſea-ſhell and wreck. Such manures are highly uſeful to the bituminous ſoil, and to ſome of the clays, and their effect is greateſt in the neutralized form, rather than in the ſtate of pure lime: for the calcareous ſoil, the remains of putrid animal and vegetable matter, or dung, is moſt ſucceſsful.

XLV.

Thus from the analyſis of theſe ſubſtances, it is probable that oxygen and carbon are the chief principles ſupplied by the application of manure to the ſoil, and that they are drawn from the ſoil by the vegetable, as conſtituting part of its nouriſhment and compoſition. That the carbon is decompoſed alſo by the iron conſtantly preſent in every ſoil, and that by this decompoſition it is rendered fit for the purpoſes of the vegetable.

XLVI.

As the nouriſhment of plants, or the means of their increaſe, is clearly derived from the ſoil, that part of them next to the ſoil, or the root, muſt form the medium of conveying it. In examining this part of their ſtructure, no ſenſible openings appear. The naked eye traces no paſſage for its reception; hence it muſt undergo a ſtate of extreme fluidity or ſolution before it can be received into them, and the vegetable food, therefore, can only be of a very fluid nature.

XLVII.

The extremities of the radicles appear alſo the part moſt active in receiving this nouriſhing ſupply, and the ſoil is therefore much exhauſted where theſe radicles are moſt extenſively ſpread. The amputation of a radicle ſtops its growth. Its extremity is never renewed, ſhoots ariſe from its ſides to ſupply the deficiency, or a new root is entirely formed.

XLVIII.

As the food of vegetables is required in a ſtate entirely fluid, ſo all the matters of which it is compoſed are capable of undergoing this ſolution. The food then abſorbed by the roots is received into the vegetable body in a fluid ſtate, and when received, it is diſtributed through the plant, to aſſume certain changes from the action of the other parts of the plant.

XLIX.

This food or juice aſcending conſtantly from the roots, has been termed, as already noticed, the ſap, lymph, or blood of the plant. It is moſt abundant during the ſpring; and by inciſion of the bark and part of the wood, it is made to iſſue out, or the plant is ſaid to bleed.

L.

At different periods of the ſeaſon this ſap, or blood of the plant, is found in very different ſtates. The compoſition of this ſap has employed the experiments of chemiſtry, and it has been found to conſiſt of various proportions of water and volatile matter, which is moſt abundant; of acetite of potaſh, of vegetable matter, and of carbonate of lime. Of theſe ſeveral ingredients, the increaſe of the vegetable matter is gradually conſpicuous as the ſeaſon advances, while the ſaline principles diminiſh in the ſame proportion. Hence the ſaline ingredients are derived probably from the ſoil and ſome part of the food, while the vegetable matter is elaborated by the organs of the plant. At the ſame time, though theſe ſaline matters are derived from the ſoil, they may acquire ſome change on their abſorption by the roots, or on entering the general circulation of the plant, ſimilar to what the blood receives when it is poured into the general circulation in animals.

LI.

The ſap received into the roots aſcends the vegetable circulation with force, and iſſues from the injured part during the bleeding ſeaſon ſo ſtrongly, as to ſupport a mercurial column of 32 inches. In its progreſs it is carried to the ſummit of the tree, and its paſſage has been marked by various experiments with coloured liquors aſcertaining this fact.

LII.

The ſeat of circulation is found alſo to be the wood, not the bark. Hence, though ſtripped of the bark, the tree continues to grow; and hence the bleeding of the ſap is inconſiderable, unleſs the inciſion is carried into the wood.

LIII.

This ſap is conducted through the veſſels or tracheæ conſpicuous in the wood, which have been already noticed, and which appear, at leaſt the larger ones, always empty on cutting the wood; and to judge of them, they ſhould be inſpected the inſtant the inciſion of them is made.

LIV.

The power by which the ſap is conducted through the veſſels, depends evidently on their own principle of irritability. It neither depends on the lightneſs of the fluid, on the action of the air on the veſſels, on the exiſtence of valves, on fermentation, nor yet on capillary attraction, for to all theſe different principles numerous objections may be offered. The facts which ſupport the irritability of the vegetable fibre are well eſtabliſhed. Many plants are known to move on the application of a ſtimulus to them. Flowers are found to expand with the ſun, and to cloſe at night. Experiments ſhew the actual contraction of the veſſels by the diſcharge of their contents, and vegetation is promoted by the addition of certain ſtimuli. Thus the mouths of the veſſels receive their ſap, and by their contraction propel it upwards, till, from the extremity of the root, it reaches the ſummit of the plant.

LV.

But, in the vegetable ſyſtem, beſides the ſap, another fluid was noticed, or the peculiar juice, the ſuccus proprius of the vegetable. This fluid is conſiderably different in different vegetable bodies. It is clearly a ſecretion from the ſap, or the latter altered by a peculiar proceſs. Its abſorption is from the leaves towards the roots, which an inciſion of the plant diſcovers, by its greateſt flow being this way, and by a ligature producing a ſwelling above, and not below.

LVI.

The veſſels from which it flows are found in every part. Their ſtructure agrees with the trachеæ. The peculiarity of this fluid is diſtinguiſhed by its colour and conſiſtence, appearing green, red, milky, &c.; and its progreſs in its veſſels depends on the ſame principle as that of the former fluid, or the ſap.

LVII.

Thus, while the ſap aſcends, and is directed to the leaves, it is there changed to fit it on its deſcent for forming the peculiar ſecretions that go on and form the peculiar vegetable juices.

LVIII.

The changes the ſap acquires in the leaves are difficult to trace; but on arriving there, part of it evaporates, or is thrown off. Nor is this an inconſiderable part, for ſome plants are known to diſcharge daily equal to half their weight. The extent of this diſcharge correſponds in ſome degree to the ſurface of the leaves, and the removal of the leaves terminates the tranſpiration. It is regulated alſo by the degree of heat, and only takes place during the day. Hence ſunſhine promotes it, and rain and froſt counteract it; and even the quantity of ſap abſorbed depends on the proportion of this diſcharge.

LIX.

The nature of this follicular diſcharge is not fully determined. The leaves are the only organs by which it takes place, and of theſe the upper ſurfaces are the part of the organ on which it depends. Thus the varniſhing, or otherwiſe coating this part, entirely prevents tranſpiration; and the leaves themſelves, gradually in the progreſs of the ſeaſon, become leſs fit for this peculiar office.

LX.

As tranſpiration takes place only by the leaves, and theſe are for the moſt part annually renewed, It appears only a temporary function; and even where the leaves are retained, as in ever-greens, the diſcharge is proportionally leſs than in other caſes.

LXI.

But, as well as emitting a diſcharge from the plant, the leaves alſo are capable of abſorption from the atmoſphere, and in this way is carbonic acid gas introduced into the plant. This fluid is eſſentially neceſſary to vegetation. It is both found in the plant, and emitted from it, and alſo abſorbed by the leaves, and introduced anew. The quantity in which it is neceſſary, has not yet been fully determined. By means of it the oxygen of the plant is diſcharged, and the carbonic baſe fixed in it as a conſtituent principle.

LXII.

In order to this decompoſition taking place, light is eſſentially neceſſary; hence it only occurs in the day time, and the quantity of carbon entering a plant depends much on its growing in the light; for, when confined to a dark ſituation, the proportion it acquires is very ſmall. Along with the acceſs of light, a ſomething derived from the ſoil, and imparted to the ſap, is alſo neceſſary to complete the due quantity of carbonization.

LXIII.

Thus a conſiderable quantity of carbonic gas is required for the health of plants; but the proportion of it, and the quantity of oxygen emitted, have not been aſcertained. Reaſoning, however, from analogy, it may be ſuppoſed the quantity of oxygen thus given out ſhould correſpond in plants with the proportion of carbonic acid gas diſcharged by animals, and thus a natural balance of theſe principles will be preſerved, ſo as to admit the proceſſes of animal and vegetable life to be properly conducted.

LXIV.

In the parenchyma of the leaves, the decompoſition of theſe principles is ſuppoſed to proceed. That it is connected with a regular organization is aſcertained; for the deſtruction of the follicular organization deſtroys it.

LXV.

Thus the ſap abſorbed by the roots and leaves is in part diſcharged by the latter, and its remainder changed by the addition of carbon. But, as well as carbonic gas, oxygen is alſo abſorbed by the leaves, and ſeems neceſſary to the proceſs of vegetation. Hence the neceſſity for the preſence of atmoſpheric air to the growth of plants, the abſorption of which it is moſt probable occurs in the night.

LXVI.

With oxygen, water alſo forms a part of vegetable abſorption. In the form of rain and dew it deſcends on the leaves, and gives them vigor and animation. Hence a moiſt atmoſphere is moſt favourable to vegetable growth; and in deſcending into the particulars of the abſorption, the under part of the leaf ſeems more immediately appropriated to it, while the upper part forms the tranſpiration.

LXVII.

From theſe circumſtances, various parts of the leaf are adapted to various purpoſes; and a concluſion is alſo to be farther drawn, that the abſorption of the various matters that take place into the vegetable ſyſtem is confined chiefly to the night, while their decompoſition again is an operation chiefly conducted during the light.

LXVIII.

In this manner are performed the varied operations of the vegetable ſyſtem at different times. Water and oxygen are emitted by day, and carbonic gas is abſorbed; while moiſture and oxygen are abſorbed by night, and carbonic gas is given out. This emiſſion of carbonic gas ariſes from the decompoſition of water, and is regulated by the quantity of oxygen abſorbed.

LXIX.

The decompoſitions which ariſe in the œconomy of the plant, it is impoſſile with accuracy to aſcertain. It is clear, that during the day the carbon of the ſap is increaſed, while, during the night, the hydrogen and oxygen are accumulated. The after combinations, detailed under the head of

Chemiſtry, in the manner of their formation elude our reſearch.

LXX.

The real quantity of oxygen emitted, and carbonic gas abſorbed, is alſo difficult to eſtabliſh; for experiments ſhew, both that an accumulation of carbon is conſtantly taking place in the plant, and alſo that the emiſſion of oxygen from it is greater than from calculation is imagined.

LXXI.

Beſides theſe purpoſes anſwered by the action of light on the plant, others remain of a different nature, particularly its effect on their colour. Light communicates a green colour to the vegetable fibre, darkneſs renders it white. In order to this effect, though we cannot explain the cauſe, the preſence of oxygen, as well as light, ſeems neceſſary; and wherever the atmoſphere is loaded with hydrogen gas, this greenneſs is increaſed.

LXXII.

In this general view of the vegetable ſtructure, the leaves appear to ſerve the moſt important offices. By them the nouriſhment is in part conveyed, and through them the carbonization of the ſap in the ſame manner as by the lungs the oxidation of the blood of animals takes place.

LXXIII.

Hence the loſs of the leaves is to the plant the loſs of its vegetating powers, and new leaves muſt be produced before vegetation can proceed. This is conſpicuous in the plant from the period of its firſt germination, and the removal of the dead leaves is the ſuſpenſion of its growth.

LXXIV.

The formation of leaves is even marked long before their appearance. They are traced in the bud, and require only evolution, or that the plant ſhould barely poſſeſs ſo much nouriſhment within itſelf till this evolution is effected, and its new parts, or leaves, are complete: but, if the plant ſhould be deprived both of leaves and buds, its vegetation is then at a ſtand, and cannot proceed.

LXXV.

From the leaves, then, where the changes detailed are performed that conſtitute the peculiar juice, the latter is carried by veſſels to every part, and the various intentions of vegetation are thus executed by the increaſe of the wood, bark, and roots, by the preparation of ſeeds, and by the accumulation of nouriſhment in the buds, ſo that the future purpoſes of the œconomy may be anſwered.

LXXVI.

This peculiar juice muſt from its nature differ in different vegetables; and their leaves, therefore, though their mode of action is the ſame, from peculiarities of combination, muſt furniſh different products. But, whatever ſpecific difference may take place in theſe products, one principle muſt always be preſent in the peculiar juice, the baſe of the wood or vegetable fibre, in the ſame manner as the animal blood contains the fibrine, or baſe of the muſcular fibre. This is even eſtabliſhed by experiment, and by applying chemical agents to the peculiar juice; for a depoſition takes place from the juice of a matter ſimilar to the woody fibre. Compared then with the ſap, the peculiar juice contains an exceſs of carbon, hydrogen, and oxygen, with a deficiency of water and lime; and in conſequence of its being conveyed to every part, the different functions of the plant are performed, though the manner in which theſe take place is involved in obſcurity.

LXXVII.

Particular Economy of Vegetables.

Having thus taken a connected view of the progreſs of vegetation, we are now prepared for examining the vegetable œconomy more in detail. The connection between the animal and vegetable ſyſtem is ſtrongly marked, and the ſeveral functions connected with nutrition and increaſe, admit a near compariſon.

LXXVIII.

Vegetable Abſorption.

The firſt of the functions is the abſorption of nutriment. Vegetable abſorption differs from the animal in only taking place by the ſurface, and conſequently in being leſs complex. The ſurface has, for this purpoſe, we have ſeen, two ſets of abſorbents, the pores or mouths on the radicles of the roots, and thoſe on the ſurface of the leaves.

LXXIX.

The root imbibes the nutriment from the ſoil, by means of its abſorbent pores, as long as it continues in a ſucculent ſtate; when this changes, it loſes its powers, and ſhoots are ſent out to continue the abſorption, and convey it, firſt to the root, and thence to the whole plant. Thus the ſucceſs of tranſplanting depends on the number of theſe radicles preſent.

LXXX.

The leaves alſo, we have ſeen, are an organ equally important as the root; they abſorb a variety of matters from the atmoſphere with equal power, as the radicles do from the ſoil, and convey them to every part of the plant. Thus the plant drooping in the ſolar heat, is revived by the dew of night, tranſmitted to every part of it through the leaves.

LXXXI.

Thus an obſtruction of the leaves, by ſhutting their abſorbent mouths, produces diſeaſe and change of colour; and the removal of this part even ſuſpends vegetation. Thus, alſo, where the root of the plant is ſmall for affording nouriſhment, its leaves proportionally expand.

LXXXII.

This is conſpicuous in the cacti and ſeda, which, although they have very ſmall roots in proportion to their ſize, and grow on the drieſt hills, are very ſucculent.

LXXXIII.

The variety of matters which the leaves tranſmit, were already conſidered.

LXXXIV.

The firſt to be reviewed is water, which, through this medium, is diffuſed through every part of the plant, and conſtitutes a portion, as already noticed, of its aliment. Under the want of this univerſal fluid, the plant droops and dies; by its influence it is not only nouriſhed, and its vaſcular ſyſtem dilated, but it contributes greatly to ſtimulate and augment the vital power of the veſſels. Water was conſidered formerly as the ſole food of plants, and the proof of it was drawn from the circumſtance that plants placed in water alone will grow without any other nouriſhment. There occurs, alſo, frequent inſtances of ſprings being dried up from their neighbourhood to a wood, which could only depend on this cauſe.

LXXXV.

The ſecond matter abſorbed through the medium of the leaves is atmoſpheric air. Thus air, beſides being a neceſſary ſtimulus applied externally to the plant, enters alſo largely into its compoſition, in ſo much ſo, that ſome vegetables poſſeſs a quantity of it equal to a third of their weight. The quantity of it, however, neceſſary to different vegetables, is various; and hence we find that thoſe which grow on a mountainous ſituation, and are much expoſed to it, periſh ſoon when brought down to a plain.

LXXXVI.

Thus, alſo, plants *in vacuo* cannot be evolved from the ſeed, nor can vegetation afterwards proceed. To the ſame principle may, perhaps, be referred, that ſeeds buried too deep in the ſoil, do not vegetate, but die.

LXXXVII.

But in this abſorption of atmoſpheric air, we muſt examine the particular ingredients of it which are ſo neceſſary to the plant. Two principles we find contained in this fluid; and theſe two principles, we already noticed, as eſſential to vegetation.

LXXXVIII.

The firſt is vital air, which we find both abſorbed and given out by the plant. Thus plants placed in this fluid alone grow larger, become more powerful, and are greener than in atmoſpheric air.

LXXXIX.

No air then, when deprived of oxygen, is fit for vegetation alone; and plants placed in azotic or mephitic air, carbonic or fixed air, hydrogen or inflammable air, become flaccid, and gradually die. Nitrous air has the ſame effect on them in a ſhort time. Hence vital air imparts a natural ſtimulus neceſſary to excite the fibres, and ſupport the vital energy of the vaſcular ſyſtem.

XC.

The next matter abſorbed, we noticed as abſolutely neceſſary to the vegetation of the plant, is carbonic acid gas, a matter in order to convey to it the conſtituent baſe of its fibre, and its other predominant principles.

XCI.

The matter of heat, or caloric, from the ſurrounding atmoſphere, is another ſubſtance eſſentially neceſſary to the ſucceſs of vegetation, and which is abſorbed by the plant. The neceſſity for it is ſufficiently demonſtrated by the appearance which plants at peculiar times of the ſeaſon aſſume, and by the difference which vegetables diſplay in different climates. The degree of it alſo requiſite for the growth of individuals in the ſame climate, is conſiderably varied, and forms what may be ſtyled the difference of vegetable temperament; and it is this difference which has given occaſion to the ſeveral modes of its artificial application, by the conſtruction of hot-beds, green-houſes, &c. From the ſame cauſe the ſhades of trees are ſo cool. Tepid ſhowers, by which they obtain water, together with this principle, is moſt favourable to their growth. Even in the ſtate of ſeed this matter is required, for ſeeds do not vegetate in the cold.

XCII.

Light is another matter, we obſerved, of great importance to vegetation in reſpect to their colour. Night and a dark ſituation renders their appearance paler, and deſtroys their vigour; but by the influence of the day, they become ſtrong and coloured. Thus the endive, artificially tied up, grows white internally, and green externally; the aſparagus, covered with ſoil, becomes tender and white, and its increaſe ſeems but ſlow; while, if expoſed, it on the contrary ſoon expands, becomes firm, and acquires a greenneſs of colour.

XCIII.

The laſt cauſe of vegetation is the electric fluid, which is always preſent in the atmoſphere, and ſilently conducted from it by the attraction of vegetables. Hence we find a number of vegetables that grow beſt in warm moiſt weather, when it is moſt abundant; and its artificial application has been alſo experienced to promote conſiderably their growth.

XCIV.

Thus the food of plants is more varied than it was once ſuppoſed; and though water and air form their principal nouriſhment, yet many other matters are blended with them, that deſerve the firſt attention in their œconomy.

XCV.

Abſorption, then, is the mode by which the nutriment of vegetables is received into their ſyſtem, and when abſorbed, it is next converted or aſſimilated into alimentary matter.

XCVI.

The principles of vegetable nouriſhment, when analyſed, are ſimilar to thoſe of animals. In the animal, a particular organ decompoſes them after their reception into the body. In the vegetable, they receive a previous preparation in the ſoil, which fits them for immediate application. Thus Nature performs herſelf the preparatory taſk, by the putrefaction of the various inorganic ſubſtances the elementary principles of the vegetable nouriſhment are diſengaged and attracted by the mouths of the abſorbent radicles. Vegetables then, like animals, are nouriſhed by a ſimilar proceſs, the veſſels for which in the former are ſituated externally, but in the latter they are placed internally in the inteſtines.

XCVII.

By the activity of the vegetable organs, the aliment is next converted into a peculiar fluid, under the name of ſap, (totally different in its nature from what it was before its abſorption,) and which acquires, as a part of the change, the poſſeſſion of the vital principle. Thus animation being given to the alimentary fluid, univerſally diſtributed, it ſerves for the nutrition, developement, and reproduction of vegetable ſubſtances, and anſwers every purpoſe of the animal blood. By its intimate penetration into every part of the plant, nutrition is conveyed, and their gradual extenſion and increaſe is an effect of the application of the ſame means.

XCVIII.

Thus the abſorption taking place from the vaſcular extremity, or pores, conveys the already prepared fluid or chyme into the ſuccous veſſels, formerly noticed, into which they open; and thence, by the tracheæ or ſpiral ones, it reaches the parenchyma of the leaves. There it is changed into a different juice, and the vital principle added to it, thus vegetalized, it is carried to all the parts of the fructification by the circulation of proper veſſels, and by the ſame power depoſited for the formation of the ſolid, and the various ſecretions of the fluid parts.

XCIX.

In this manner is conducted the nouriſhment of the plant, its veſſels elongated, and its whole fabric increaſed; and the ſame vegetative principle which generates it in the ſeed, continues its nutrition in the various ſtages of its increaſe while its life continues.

C.

The leaves of plants being thus ſupplied with parenchyma, which is the receptacle for the nutritious juice, may with propriety be conſidered as analogous to the adipoſe paniculus of animal bodies.

CI.

With the ripened fruit of plants, the ſtages of nutrition and increaſe ceaſe, and the vaſcular ſyſtem hitherto active, gradually becomes ligneous and impervious.

CII.

Vegetable Growth.

The courſe of vegetable growth is a ſubject beyond our reſearch. Its progreſs we are only able to trace. The evolution of the ſeed was formerly examined, and the ſtages from the period of its formation into the plant, now claim our attention.

CIII.

This growth does not obſerve, in every plant, the ſame progreſs; for in the root, at firſt, it advances more rapidly than in the ſtem; and an oak plant one foot and a half high, has a root four feet in length, in order that by ſhooting out it may ſuck in ſufficient nouriſhment. If the principal root be mutilated, the plant emits radicles in every direction; which always grow faſter than if the root had remained perfect. The radicles at firſt do not receive any conſiderable increaſe; but ſoon after augment into a body almoſt equal to the principal root; and then, when too hard for abſorption, they protrude new lateral radicles.

CIV.

The extreme apex of the roots is the point of prolongation, and this appears if any root be coloured with varniſh in different places. The radicles, alſo, chooſe always the moſt humid part of the ſoil, ſo that walls are frequently overturned by the power of the roots penetrating towards moiſt places. Thus the growth of the roots takes place, while the other parts of the plant are yet dormant; and hence a difference in the temperature of the root from the other parts prevails.

CV.

The trunk of vegetables is expanded throughout its whole length; and not, like the root, at the apex only, but its growth is leſs quick than that of the root. Thus, if the tender ſtem of a plant at the beginning of ſpring be coloured over with varniſh, and marked in different places, the marks will, after a few months, be obſerved to have receded. In ſome caſes, however, where the fibres are ſoft and ſucculent, the growth here is alſo performed by elongation, though in the greater number an additional matter is ſupplied.

CVI.

In annual plants, the higheſt expanſion of the ſtem continues until the unfolding of the flowers: then the fibres of the ſtalk indurating, at length gradually become dry.

CVII.

In perennial plants, the ſtem continues to increaſe until the fall of the leaves in autumn. In the mean time, a germ or bud appears in the apex, containing the rudiment of the new ſtem, which during winter increaſes ſlowly until the following ſpring. On caſting off its winter covering, at this period it continues the increaſe of the ſtem in the ſame manner as the inferior part increaſed during the former years; for from the place where a bud is ſeated a tumour extends, which being continued with the new ſtem, ſcarcely leaves any veſtige.

CVIII.

The ſtems of vegetables increaſe alſo by additional ſtrata in breadth as well as in length, and theſe are formed by the bark, which, ſimilar to the perioſteum in animals, penetrates the bone, or conveys the generating matter. Thus additional ſtrata are annually depoſited by the veſſels of the bark, as experiments confirm: for, if the cortical ring be torn from the trunk of a tree, and the woody cylinder of the denuded part be perfectly ſurrounded with a tin leaf; and the whole after being replaced, is covered with the tree plaſter; then, upon cutting the tree ſome years after, it will be found that no increaſe takes place in the part covered with tin, and that it remains as when firſt applied. Theſe ligneous ſtrata are the production, as formerly ſtated, of the bark; for, if metallic threads be inſerted obliquely into the cortex, they are after a length of time obſerved in the wood itſelf, and not in the bark.

CIX.

In this way does the increaſe of vegetables proceed, and the rapidity with which it takes place in individuals is conſiderably varied, hence the different ſize of vegetables both in height and breadth at the ſame age. This is particularly the caſe with trees, for their trunk receives two ligneous ſtrata annually; but the thickneſs of theſe ſtrata varies every year, being greateſt when the tree is of a middle age, and the warmer the ſummer, the more ſlender the bark. It is from theſe annual ſtrata of trees that an attempt has been made to aſcertain their age, and in many this is no doubt to be done from the appearance of the annual circle, but in others it can only be accompliſhed by obſervations of the quantity of growth in a given time. The bark has been conſidered as a protruſion from the veſſels of the wood.

CX.

The generation of branches appears to be from the corona, or that diviſion ſituated between the wood and medulla, from whence they proceed. A germ, alſo, or bud, produces a new branch, and hence gives birth to a new plant concealed in it; for the branch contains every part eſſentially neceſſary to form a new plant, as is evident from cutting it off and planting it, by which a complete tree is produced.

As the veſſels principally protrude where there is the leaſt reſiſtance in the bark, the ſame is obſerved of the branches of the root.

CXI

The veſſels of the bark give origin alſo to the leaves; for, the bark being ſeparated from the wood, no connection of the leaves with the wood can be obſerved; and the bark alone, if put into water, produces leaves.

CXII.

In the production of flowers, the epidermis enters the calyx, the alburnum the corolla, and the ſeries of veſſels into the ſtamina and piſtils.

CXIII.

The Secretion of Vegetables.

As the animal ſecretions ariſe from the blood, ſo the ſame takes place from the ſap of the vegetable, the nouriſhment diſtributed to every part is partly applied to the ſolid parts, is depoſited in peculiar ſecretory veſſels, in particular receptacles, or on particular organs; and the uſeleſs or ſuperfluous part, is diſcharged by tranſpiration through the leaves; or is, perhaps, partially carried off by the roots.

CXIV.

As theſe various fluids exiſt in particular parts of the vegetable, and no where elſe, ſo by the power of theſe parts alone muſt they be produced, and by the action of the veſſels there, the ſap ſeems to be decompoſed into their principles, and theſe, at length, form new unions, and compoſe new productions.

CXV.

Vegetable Tranſpiration.

Plants, we have ſeen, poſſeſs a diſcharge ſimilar to the perſpiration of animals; and this perſpiration is divided, like it, into the inſenſible and ſenſible. The inſenſible perſpiration is chiefly performed by the leaves; and hence it only takes place while the leaves exiſt, and in the evergreens, where they always continue, the perſpiration on this account is found, by experiments, conſiderably ſmaller than in the others. The matter perſpired, was already examined; and even the air along with it, though from a poiſonous plant, is pure. The quantity varies much in different bodies, and is greatly influenced by external circumſtances. For it is moſt conſpicuous in the day-time, is moſt abundant in dry weather; and hence, alſo, dry plants perſpire always moſt, and are much affected by the ſtate of heat and light.

The purpoſes of this perſpiration to the plant we conceive to be the ſame with the different excretions which take place from the animal body. This is proved by the diminiſhed weight of plants in the day; and, by placing a glaſs bell over ſome mowed graſs in a field, although the ſeaſon be very warm and dry, in two minutes the internal ſurface of the glaſs will be covered with a great number of aqueous drops.

CXVI.

That tranſpiration is chiefly carried on by the leaves, is confirmed from ſeveral experiments, from the conſideration of their poroſity, and from trees wanting leaves ſuffering no alteration of weight.

CXVII.

The ſenſible perſpiration is generally partial. It conſiſts of an odoriferous exudation in certain bodies, and is perceptible both to the touch and ſmell. It is not conſtant, like the former, but is emitted at different times from different plants.

CXVIII.

Thus the leaves are the principal organs of perſpiration, and this diſcharge by day exceeds that by night; for, in the night, inhalation is the general office of the leaves; hence heat and dryneſs are neceſſary to this diſcharge; and when a dew falls it almoſt wholly ceaſes.

CXIX.

The quantity of perſpired matter in the day varies in different plants, and in ſome ſpecies it is very conſiderable. Thus a ſunflower in the midſt of ſummer is found to perſpire, on an average, upwards of a pound a day; and this diſcharge is greateſt in the flowering ſtate.

CXX.

Even a ſingle leaf is found in twenty-four hours to perſpire ten grains; a tree with 20,000 leaves muſt perſpire, within a day, one pound; and on the ſame calculation, an acre of a field containing 30,240 ſquare feet, with plants ſo diſpoſed, that a foot diſtance is placed between them, would ſoon become a lake of water, if every plant perſpires eighteen ounces, were this fluid not carried off.

CXXI.

Such a portion of moiſture, then, muſt be ſupplied from the ſoil accumulating it as a reſervoir at different periods of the ſeaſon, as well as in ſummer.

CXXII.

The general facts in regard to vegetable perſpiration may be thus collected:

1. That it is particularly promoted by the heat of the ſun, and by the expoſure of the plant ſo as to increaſe it, it ſoon acquires a mature or ripened ſtate.

2. That this diſcharge is checked by cold and moiſture; hence warmth and dryneſs are moſt favourable to growth.

3. In the ſtate of health, vegetable perſpiration is ſtrongeſt; hence weak plants are injured by increaſing their moiſture.

4. An equal perſpiration, proportioned to the aliment abſorbed, conſtitutes the health of a plant; exceſs or deficiency of this diſcharge is equally injurious.

CXXIII.

The general uſe of vegetable tranſpiration is to free the plant of its hurtful and ſuperfluous parts; and this it does in the manner already pointed out in a former diviſion.

From conſidering the tranſpiration or diſcharge from the leaves of plants, we are next led to review another function of the vegetable ſyſtem.

CXXIV.

Vegetable Reſpiration.

This is the vegetable reſpiration, and it is a function equally neceſſary to plants as to animals. A proof of this is drawn from the changes they produce on the ſurrounding air. This function, we formerly noticed, is performed by the leaves, which are not improperly called the lungs of plants.

CXXV.

By them is continually inſpired from the atmoſphere, diſſolved in a watery fluid or dew, mephytic and carbonic air, eſpecially during the night time; by which the tranſpiration of the aqueous vapour is diminiſhed; and the ſame principles which the leaves thus ſuck from the atmoſphere, are alſo derived by the roots from the ground.

CXXVI.

A conſiderable variety, however, in the matter of expiration takes place in different vegetables; and the air expired differs not only in different plants, but alſo in different parts of the ſame plant, depending upon the time of the day, the place, and a variety of other circumſtances. Thus the leaves and green parts of plants, in the day-light expire pure vital air; which is proved by putting a plant into a glaſs veſſel, filled with water, expoſed to the ſun's rays. A number of air bladders ſoon occupy the ſurface of the leaves, and at length riſe to the top of the veſſel; where being collected, they afford a reſpirable element to animals, and candles burn in it very brilliantly. But if the ſame experiment is made with the ſame leaves, in the ſhade, or by night, the air then obtained extinguiſhes flame, and ſuffocates animals, being fixed air with a little azote.

CXXVII.

The coloured parts of plants, as well as the root, bark, wood, flowers, fruits, and ſeeds, under certain circumſtances expoſed to the rays of the ſun, expire only carbonic air.

CXXVIII.

Many plants, alſo, eſpecially of the fungous kind, expire inflammable air; for if ſhut up in a veſſel containing vital air, it becomes from their expiration ſo vitiated as to be lighted by a candle.

CXXIX.

If plants be put into inflammable air, and expoſed to the rays of the ſun, they emit pure vital air as long as they vegetate.

CXXX.

Hence light and heat, and inflammable air, act as ſtimuli on plants; and draw from them pure vital air. Simple heat, however, does not ſeem to contribute any thing, for the evolution of vital air is more powerful in cold than in heat.

CXXXI.

The parts of plants expiring no vital air exhibit a white and varied colour; and the ſame is conſpicuous in a dead or diſeaſed plant.

CXXXII.

Thus by vegetable inſpiration is inhaled a nutritious vapour; and by expiration, ſuperfluous or noxious ones, that might prove the ſource of irritation are thrown out; and for this purpoſe is vegetable reſpiration eſtabliſhed.

CXXXIII.

The Motion of the Fluids in the Veſſels.

The circulation of plants, we formerly deſcribed, as taking place in both directions, upwards and downwards, or from the root in the one caſe riſing perpendicularly, and from the leaves in the other paſſing down into the ſtem. There is here no centre from which a circulation begins, as in the animal ſyſtem, and to which its return is regularly made; but ſtill in the fluids of plants a regular courſe is obſerved; and this variety of their motions takes place at different times, for the fluids attracted by the leaves deſcend at night, and thoſe by the root aſcend by day. Thus the leaves by night inhale dew, and ſeldom perſpire vapour; and *vice verſâ.*

CXXXIV.

The proof of the aſcenſion of the ſap is drawn from ſeveral circumſtances, as the erection of flaccid plants, if water be poured on the ground, or if the root only be put into water.

CXXXV.

The artificial colouring of flowers is a proof of the ſame; for, by impregnating the water abſorbed by the root with a colouring matter, it is found to aſcend; but the return of this fluid, or its deſcent, has not been traced ſo as to render the oppoſite motions complete to demonſtration.

CXXXVI.

From their mode of circulation, the veſſels of plants muſt poſſeſs a vital energy, and an irritability of fibre, ſo as to be affected in their diameter by various ſtimuli, the ſame as thoſe of animals. This is clear, both from the aſcent of the contained fluid, and from the influence of ſuch ſtimuli upon them. It is by this action of the veſſels the very rapid circulation of the ſap in them is accumulated, for the degree of motion indeed varies in every plant, regulated by the proportion of their irritability, and thus it is quickeſt in thoſe plants which are the moſt irritable, and *vice verſâ.*

CXXXVII.

The various ſtimuli influencing the vaſcular action or circulation of plants, may be reduced to water, heat, vital air, light, electric matter, and ſome artificial ſtimuli, as nitre, ſal ammoniac, ſulphur, &c. according to the experiments of different authors on this ſubject.

CXXXVIII.

Vegetable Temperature.

Every plant is poſſeſſed of a certain natural temperature connected with its portion of vital principle; and in conſequence of this it is enabled to reſiſt the variations of the atmoſphere.

CXXXIX.

The power of reſiſting cold is remarkably difplayed by the roots of ſome plants; and, though even incruſted the whole winter with ice, the tree to which they belong bloſſoms vigorouſly the following ſpring.

CXL.

Nor does the cold, which deſtroys the reſt of the plant, ſeem in the greater number of caſes to have the ſame influence on the root. Even on any part of the evergreens of the northern regions, froſt ſeems to make little impreſſion; and wherever the juices of plants are of a more tenacious nature, they ſuffer leſs from cold than thoſe purely aqueous.

CXLI.

Nor is the power of reſiſting exceſs of heat in ſome plants, leſs conſpicuous than that of others in reſiſting extreme cold. Thus graſs will be found cool in the midſt of ſummer, when the ſoil itſelf feels warmed; and cucumbers preſerve a coolneſs to the touch, when every part around them is heated in the extreme. The ſame thing is alſo obſervable in fruits while on the trees.

CXLII.

Thus the temperature of plants ariſes from the abſorption of heat from the atmoſphere; and hence the coolneſs felt in the ſhade of trees.

CXLIII.

In different plants this power of attraction and retenſion of heat varies, and in the evergreens of northern climates an accumulation of latent heat muſt clearly prevail. The manner in which this heat is drawn into the plant, is not clearly eſtabliſhed; but the abſorption of caloric muſt give riſe to new combinations in the ſyſtem of the plant, which, ſimilar to what occurs in animals from reſpiration, will prove one cauſe of the increaſe of temperature.

CXLIV.

The general benefits ariſing to plants from heat, or an increaſed temperature, are its augmenting the irritability of their fibres, and occaſioning all their functions to be regularly performed, and its rendering alſo the ſap and other fluids fitter to pervade their various veſſels. After the death of the plant, a diſſolution and new combination of their component parts is produced by it, which putrefaction abundantly ſhews.

CXLV.

Vegetable Senſibility.

The irritability of plants has been already detailed, or that vital energy inherent in the vegetable fibre. This energy conſiſts in a certain capacity which vegetables poſſeſs for receiving the action of certain ſtimuli, formerly detailed as applied to them; and this capacity we find ſo ſtrong, as often to occaſion them certain motions with a view to receive it. Thus, when a plant is placed in a dark ſituation, and light only admitted to it at one part, it is directed in its growth towards this ſituation from its attraction for that ſtimulus.

CXLVI.

Hence, ſimilar to the animal fibre, the vegetable poſſeſſes a certain degree of ſenſibility, although no nerve has been traced in its ſtructure. This is conſiderably varied in different individuals, but in ſome it appears nearly equal to that of the animal itſelf, as in the ſenſitive and moving plants, which ſeem conſcious, by the contraction of their fibres, of the leaſt irritation.

CXLVII.

Connected with this ſenſibility of the vegetable fibre, vegetables we find alſo poſſeſſed of certain motions, and theſe conſiſt in their altering in ſome meaſure the direction of their parts, which takes place twice a day, bearing themſelves always towards the ſource of heat; but, independent of this, every plant forms a certain twiſt, or takes a particular direction in its growth, which we cannot account for.

CXLVIII.

This ſtructure of the vegetable fibre requires the conſtant application of the vegetative powers to continue its excitement; and when theſe are by the occurrence of night, or the removal of heat and light in a certain degree taken away, a ſtate of relaxation, or leſſened vigour, which we term ſleep, ſimilar to that in the animal, is induced.

CXLIX.

Vegetable Sleep.

This conſiſts in the bending of their leaves, and ſometimes their ſtem, in different ways, ſo as to encircle, and at times totally hide their flower; and this ſtate they recover from as ſoon as the ſun communicates to them a certain degree of light and heat; for the degree requiſite for their recovery varies in different plants; and hence they come to be unfolded at different hours of the day: yet, even exceſs of heat and light, as well as its removal to a certain degree, will produce the ſame ſtate, and thus in the hot-houſe at mid-day, many are found in this ſituation.

CL.

Theſe effects, then, depend on their principle of irritability; and the variety in different plants in regard to the poſſeſſion of more or leſs of this principle muſt depend upon the capacity of their fibres to receive it. Hence every plant has a degree of it peculiar to itſelf, and hence one ſpecies is deprived of its irritability by external ſtimuli, when another poſſeſſes the capacity of bearing them with impunity. Many plants alſo become gangrenous in the ſpring time after a ſevere cold night, while others are not in the leaſt hurt, which all afford proof of the ſame fact.

CLI.

The capacity of receiving this principle is varied alſo in plants at different times, and this principle ſeems general; ſo that the irritation of one fibre produces a correſponding effect on the reſt, varying only in degree, according to the diſtance from the ſeat of impreſſion. This is very conſpicuous on touching the ſenſitive plant.

CLII.

Nor is this principle of irritability inexhauſtible. It is gradually diminiſhed by the frequent application of a ſtimulus, and may be even totally exhauſted. Thus the motion of plants depends on an irritable muſcular ſtructure of their fibres, which, in ſome of them, as the moving plant, is diſplayed in a remarkable degree; and in all of them ſome ſenſe is apparent in the flowers, for thoſe of common dandelion we find turn towards the ſun, and expand at a particular time of the day, when the ſun is ſtrong to act upon them; and at other times they always cloſe again, eſpecially if the ſun comes to be clouded, and there is an appearance of rain.

CLIII.

The peculiar irritations or ſtimuli that excite this action of the vegetable fibre, were already conſidered. They conſiſt of light, heat, water, vital air, and electric fluid in a gentle degree. Of this, light ſeems to exert a remarkable influence, for it is common to vegetables which are made to grow in the inſide of houſes and on the ſoles of windows, to turn their tops towards the light, though the heat of the room be greater than the external air, and the part turned towards the room hotter than the part turned towards the window; ſo that if the light of the ſun acted by heating the vegetables only, it ought to turn the other way, as that ſide is the hotteſt. But the plant called balſamy, for inſtance, which is uſually on the ſide of windows, turns its top towards the window; and if the earthen-pot is turned round, in two days the top is again turned round towards the window: ſo both the leaves and flowers of plants, and indeed the whole plant, has a diſpoſition to be affected by light, to be ſtimulated by it, or they have ſome kind of ſenſibility which diſpoſes them to turn towards it.

CLIV.

This alſo appears in certain roots, and other vegetables which grow ſpontaneouſly in cellars, as in the common leek when it lies till the return of the warm ſeaſon, when it ſhoots its fibres in a direction ſtraight towards the door or window where a little light is admitted into the cellar. And for the ſame reaſon do trees grow more upright in a thick wood than in any other ſituation. When the light is admitted from above, they have a tendency directly upwards; and there is no other way to have a tree tall and ſtraight, but by making them grow thick in this manner.

CLV.

Numerous inſtances of theſe effects of light in different plants may be adduced, and theſe effects are moſt conſpicuous at certain times of the day; for the irritability of all plants is generally greateſt in the morning and noon, leſs during exceſſive heat, and leaſt in the evening.

CLVI.

In the ſame manner, as certain ſtimuli increaſe the irritability of the vegetable fibre, ſo thoſe of an oppoſite nature we find diminiſh and deſtroy it. This happens alſo from exceſs of heat, from cold, from light, from foul air, from electricity, and from opium, according to the degree in which they are applied.

CLVII.

The ſleep of plants, by the cloſing of their petals and leaves, though a fact ſufficiently aſcertained, takes place at different times with different individuals. Though like that of animals, it generally takes place in the evening and at night, yet in others it only happens when they are expoſed to the ſtrongeſt ſtimulus of light and heat. Others ſleep the whole day, and expand their leaves at ſun-ſet; and others only ſhut and cloſe their petals ſome hours in the day. This ſtate of reſt is evident in many plants by their external appearance, and it is no doubt connected with their principle of irritability, which being exhauſted, for the time requires this neceſſary ſuſpenſion or interval in order to be repaired.

CLVIII.

We have thus conſidered the general fabric of the vegetable body and the principles of vegetation, or the ſeveral powers by which the vegetable is raiſed and matured; it remains to examine the circumſtances of its decay, and afterwards the means of its reproduction.

CLIX.

Decay of Vegetables.

The firſt of theſe, or the decay of vegetables, is much regulated by the period of their growth, or of their attaining maturity. Some exiſt only for a ſingle ſeaſon, or even for a ſhorter duration; others are lengthened to two ſeaſons, or three; and the life of others is extended from 100 to 1000 years. Thus vegetables are divided, from the period of their exiſtence, into annual, biennial, and perennial. Trees and fruits arrive often to a conſiderable age, and acquire in conſequence an amazing ſize. The extent of their age may be often aſcertained by examination of their ligneous rings or circles; but this inveſtigation, as already noticed, is difficult in many, and impoſſible in others.

CLX.

Vegetable life, like the animal, may alſo, in the courſe of its progreſs, be divided into certain ſtages.

The firſt, when the vegetable is ſoft, ſucculent, and ſhews every mark of weakneſs and tenderneſs, may be termed the period of infancy.

The ſecond, when it is diſtinguiſhed by beauty, verdure, and an approaching fullneſs of growth, forms the period of youth.

The third, when the fruit ripens, conſtitutes the age of the plant, when a dryneſs and hardneſs of every part gradually advances, when the juices are ſlowly circulated through its ſyſtem, when its veſſels begin to cloſe up, and the energy of their vital power to be gradually diminiſhed.

By the progreſs of this ſtate, ſtagnation and corruption take place; and thus, whatever the term of the duration of vegetables, the ultimate change ſooner or later muſt enſue, and they ceaſe to live.

CLXI.

But this extinction of life is not always complete at one time. In many plants it conſiſts only of the parts of fructification; and in moſt trees the leaves yearly die, and are renewed in the ſucceeding one. But this partial death muſt at laſt be ſucceeded by the more general one in every part of the plant.

CLXII.

This general extinction of life occaſions à decompoſition of its principles. It is now ſubjected to the power of chemical laws, which the poſſeſſion of its vital principle enabled it hitherto to reſiſt. Putrefaction takes place, (a proceſs examined in another place,) and in conſequence of it new combinations are formed by its parts, and they are prepared into food for the ſupport of that claſs of bodies to which it formerly belonged.

CLXIII.

The vegetable therefore dies, becauſe it is no longer poſſeſſed of the powers of vegetation; and the power of vegetation it diſplays by its growth, and by its capacity of having its parts unfolded from the ſeed, when the latter is put into the ſoil. Thus, if a plant does not change its appearance, or decay, though the marks of vegetation are ſlight, it poſſeſſes ſtill its vital principle, and vegetation will continue to proceed after this apparent ſuſpenſion. Thus, alſo, though ſeeds are kept for years, if they grow when put into the ſoil, their life has remained all this time unimpaired.

CLXIV.

Vegetable Reproduction.

Having thus traced the circumſtances of vegetable decay and death, which appears to happen leſs from the loſs of the vegetative principle, than from the inaptitude of their organs to continue longer the exerciſe of their functions, it remains to view the means of their reproduction, which are either natural or artificial. The firſt, or natural mode of perpetuating vegetables, is by the ſeeds, termed their ſemination; but as the rearing them in this way, though the natural one is often tedious, ſo different modes of artificial propagation have been invented, and theſe are by roots, by layers, and by grafting.

CLXV.

The firſt is chiefly employed in the bulbous plants, which have all on their root or ſtem a number of eyes or gems, from each of which when committed to the ſoil, a recent growth is produced. The ſecond, or by layers, only takes place in trees, and it conſiſts either in allowing part of a branch to touch the ground when it will take root, or detaching it entirely from the parent, and planting it, when the ſame effect will follow, which is termed propagation, by cuttings. The third, or that of grafting, is a more nice operation, and proceeds on this general principle, that when plants are brought together, and the bark deſtroyed, they naturally fix and become connected; and to enſure, therefore, its ſucceſs, it ſhould be done when the vital energy of the plant is moſt active, as in the months of June or Auguſt, while the parts to be united are accurately applied together, and the excluſion of whatever may diminiſh the vital principle cautiouſly guarded againſt.

CLXVI.

Such is the view offered of the firſt means by which a knowledge of Botany is attained, conſiſting in the examination of their vegetable ſtructure and œconomy; but, as the extent of vegetable creation is unbounded, to render this knowledge of uſe and applicable to all the varieties of vegetable matters that occur, it is neceſſary to confine it within certain limits, by reducing them to ſyſtem, or arranging them under certain general heads; and in forming this, termed claſſification, the appellation aſſigned to each is to be derived from the obſervation of their ſimilar ſtructure, and, as far as can be done, ſimilarity alſo of their qualities.

CLXVII.

In marking the latter, the chief importance of botanical knowledge conſiſts; and this is to be attained, in a certain degree, as we formerly obſerved, by the application of vegetables to the ſenſes of taſte and ſmell.

CLXVIII.

Organ of Taſte.

The taſte depends upon the different principles which conſtitute the humours of the plant, and is different not only in different plants, but in different parts of the ſame plant.

CLXIX.

The organ of taſte comprehends all thoſe parts which extend from the lips to the ſtomach, and are lined with a delicate excretory membrane, which, in its healthy ſtate, is kept always moiſt;

and on the degree of its moiſture giving ſenſibility to the body applied, the acuteneſs of taſte much depends.

CLXX.

Various Senſations of Taſte.

The ſenſe conveyed by the impreſſion of taſte is conſiderably diverſified, and is generally conſidered as differing in degree, duration, fixedneſs, diffuſibility, and, in the quick and ſlow action with which the impreſſion is conveyed. Taſtes are alſo to be conſidered as in their nature either ſimple or compound.

CLXXI.

Of ſimple taſtes, 10 different ſpecies have been uſually obſerved, which are;

1. The ſweet, or ſugar taſte.
2. The oleous, or animal taſte.
3. The ſaline, or ſea taſte.
4. The bitter, or permanent taſte.
5. The acid, or ſucculent taſte.
6. The vapid, or inſipid taſte.
7. The aſtringent, or vegetable taſte.
8. The hot, or acromatic taſte.
9. The cold, or frigid taſte; and,
10. The pungent, or burning taſte.

CLXXII.

From theſe, different compound taſtes have been formed, and the compound taſtes commonly mentioned are; 1. The auſtere, 2. the aceſcent, and 3.

the acrid; and from conſidering the ſimple ones, the compound may be eaſily underſtood.

CLXXIII.

Senſation of Smell.

Next to the ſenſe of taſte in diſtinguiſhing the nature of ſubſtances, is applied that of ſmell, which acts only on thoſe ſubſtances from which an odour is exhaled; and its application is therefore leſs univerſal than that of taſte.

CLXXIV.

The matter on which odour depends is of two kinds, being either a common excretion from the vegetable, when by bruiſing the part it is entirely deſtroyed; or being a matter contained in certain bags or veſicles formed for that purpoſe, and which form therefore its repoſitory.

CLXXV.

The diverſity of ſmell, as marked by authors, is nearly as great as that of taſte; and the varieties of it uſually mentioned, are;

1. The roſeaceous.
2. The alſaceous.
3. The goatiſh.
4. The violet, and their ſeveral compounds.

CLXXVI.

In the application of theſe two ſenſes, attention is to be paid. For to judge of the nature of ſubſtances by taſte, it is neceſſary to begin with thoſe which convey the weakeſt impreſſion firſt, and the ſapidity of the former ſhould be entirely gone before the application of another; while, as the organ of ſmell again poſſeſſes ſuch a remarkable ſympathy with the whole body, ſo as by the application of certain ſubſtances to occaſion faintings, &c.; where a body is unknown, caution ſhould be uſed in examining it, and its odour allowed gradually to affect the part.

PART II.

CLASSIFICATION.

CLXXVII.

IN entering upon the ſubject of claſſification, it is neceſſary that the Botanical Language, or Terms, be fully underſtood, and for this purpoſe a more minute deſcription and acquaintance with the various parts of the plant is required than what ſuited the more general detail in the former part. In doing this, we ſhall proſecute the method of arrangement purſued by the late Dr. Hope, as adopted in his Termini Botanici; for the utility of the ſtudent, giving the original of it on one ſide, and the tranſlation on the other.

RERUM SERIES.

I. NOMINA PARTIUM.

TERMINI GENERALES, qui omnibus partibus conveniunt.

II. Termini qui exprimunt modos Durationis.
III. Magnitudinis.
IV. Subſtantiæ.
V. Diviſionis.
VI. Directionis.
VII. Figuræ.
VIII. Expanſionis.
IX. Loci.
X. Sitûs.
XI. Superficiei.
XII. Marginis.
XIII. Apicis.

TERMINI SPECIALES, qui quibuſdam partibus tantúm conveniunt.

XIV. Termini qui conveniunt Radici.
XV. Trunco.
XVI. Petiolo.
XVII. Folio.
XVIII. Pubi.
XIX. Armis.
XX. Bracteæ.
XXI. Pedunculo.

Sub hoc Infloreſcentia et ejus modi.

In tracing then the outlines of a plant for the purpoſes of Claſſification, we conſider,

I. The NAMES of its Several PARTS.

GENERAL TERMS applicable to all Parts whatever.

II. Terms which expreſs the mode of Duration.
III. Magnitude.
IV. Subſtance.
V. Diviſion.
VI. Direction.
VII. Figure.
VIII. Expanſion.
IX. Place.
X. Situation.
XI. Surface.
XII. Margin.
XIII. Point, or top.

SPECIAL TERMS which are only applicable to particular parts.

XIV. Terms which apply to the Root.
XV. Trunk.
XVI. Petiole.
XVII. Leaf.
XVIII. Down, or hair,
XIX. Armour.
XX. Floral Leaves.
XXI. Peduncle.

Under this are included the Infloreſcence and its different modes.

XXII. Termini qui conveniunt Fructificationi.

Sub hâc continentur.

- A. Calix.
- B. Corolla.
- C. Stamen.
- D. Piſtillum.
- E. Pericarpium.
- F. Semen.
- G. Receptaculum.

XXIII. Termini qui conveniunt Vernationi.

XXIV. Termini addendi.

No. I. PARTES PLANTÆ *ſunt*,

1 RADIX, organum nutriens plantam.

2 TRUNCUS, organum multiplicans plantam.

3 RAMUS, diviſio et ſubdiviſio caulis.

4 PETIOLUS, fulcrum ſuſtinens folium.

5 PEDUNCULUS, fulcrum ſuſtinens fructificationem.

6 FOLIUM, organum motûs plantæ.

7 STIPULA, ſquama quæ baſi petiolorum enaſcentium adſtat.

8 CIRRHUS, vinculum filiforme ſpirale, quo planta alii corpori alligatur.

9 BRACTEA, folium florale, facie e cæteris foliis recedens.

XXII. Terms which apply to the Fructification.
Under this are included.

- A. The calyx, or cup.
- B. The carolla, or coloured part of the flower.
- C. The ſtamina, or chives.
- D. The piſtillum.
- E. The pericarpium, or ſeed-caſe.
- F. The ſeed.
- G. The receptacle.

XXIII. Terms which apply to the Vernation.
XXIV. Additional Terms.

No. I. *The* PARTS *of a* PLANT *are*,

1 The root, that organ that nouriſhes the plant.
2 The trunk or ſtalk, the organ that multiplies it.
3 The branches, or diviſions and ſubdiviſions of the ſtalk.
4 The petioles, or ſtalks that ſupport the leaves.
5 The peduncles, or ſtalks that ſupport the fructification.
6 The leaves, which are the organs of motion to the plant.
7 The ſtipula, or ſmall ſcaly leaf that uſually ſtands at the baſe of the petioles when they are riſing.
8 A cirrhus, tendril, or ſpinal thread, by which a plant is tied to any neighbouring body.
9 A bractea, ſpangle, or florid leaf, differing in its appearance from the other leaves of the plant.

10 Pubes, hirſuties omnis in planta.

11 Arma, mucrones arcentes animalia, ne lædant plantam.

12 Bulbus, hybernaculum plantæ e rudimento foliorum præteritorum.

13 Gemma, hybernaculum plantæ e rudimentis foliorum futurorum.

14 Fructificatio, conſtans ex flore et fructu.

Partes Floris ſunt,

a Calix, cortex plantæ in fructificatione præſens.

b Corolla, liber plantæ in flore præſens.

c Stamina, viſcera pro pollinis præparatione.

d Pistillum, viſcus fructui adhærens, pro pollinis receptione.

Partes Fructûs ſunt,

e Pericarpium, viſcus gravidum ſeminibus, quæ matura dimittit.

f Semen, rudimentum novæ plantæ pollinis irrigatione vivificatum.

g Receptaculum, quâ partes fructificationis connectuntur.

10 The pubes, the down or hairyneſs of any ſort on plants.

11 Arma, the armour or ſharp points that defend a plant from being hurt by animals.

12 A bulb, the winter habitation of a plant, conſiſting of the remains of its former leaves.

13 A gem or bud, conſiſting of the rudiments of the plant's future leaves.

14 The fructification, conſiſting of the flower and the fruit.

The Parts of a Flower are,

a The cup, or outer rind of the plant, continued to and preſent in the fructification.

b The corolla, or inner rind of the plant, continued to and preſent in the coloured part of the flower.

c The ſtamina, or chives, the organs deſtined for the preparation of the pollen or flower-duſt.

d The piſtil, or organ adhering to the fruit, for the reception of the pollen.

The Parts of the Fruit are,

e The pericarpium, or ſeed-caſe; the bowel or organ containing the ſeeds, which, when ripe, it lets go.

f The ſeed, or rudiment of a new plant, ſuppoſed to be vivified by the irrigation or ſprinkling of the pollen or flower-duſt.

g The receptacle, or baſe with which the parts of the fructification are connected.

TERMINI GENERALES.

No. II. DURATIO PLANTÆ *eſt vel,*

15 Annua, intra annum emoritura.

16 Biennis, altero anno florens, et dein peritura.

17 Perennis, per plurimos annos virens.

18 Caduca, brevi decidens, nec per integram æſtatem permanens.

19 Decidua, peracta unica æſtate, caſura.

20 Perſiſtens, peracta æſtate, non caſura.

21 Sempervirens, per omnia tempora anni virens.

No. III. MAGNITUDO.

" Admitto rariſſime aliam menſuram, quam
" proportionalem, inter plantæ partes diverſas,
" ubi pars hæc vel illa, longior aut brevior,
" latior aut anguſtior ſit altera."

Phil. Bot. p. 262.

No. IV. SUBSTANTIA *eſt vel,*

22 Solida, interne materia duriuſcula farcta.

23 Inanis, interne medulla ſpongioſa farcta.

24 Pulpoſa, materia tenaci farcta.

25 Carnoſa, interne pulpa ſolidiuſcula referta.

26 Cartilaginea, e materia ſicca pellita.

27 Membranacea, e materia ſicca pellita.

28 Fiſtuloſa, interne tubuloſa.

GENERAL TERMS.

No. II. *The* Duration *of a Plant is either,*

15 Annual, or dying within one year.

16 Biennial, or flowering the ſecond year, and then dying.

17 Perennial, or flouriſhing for many years.

18 Caducous, or falling down and dying before the end of one ſeaſon.

19 Deciduous, or dying at the end of one ſeaſon.

20 Perſiſting, not dying after one ſeaſon.

21 Sempervirent, evergreen, or retaining freſh and green through all the ſeaſons of the year.

No. III. Magnitude.

"I very ſeldom admit," ſays Linnæus, "any "other than the proportional meaſure between "the different parts of plants, where this or that "part is longer or ſhorter, broader or narrower, "than another." *Phil. Bot.* p. 262.

No. IV. Substance *is either,*

22 Solid, filled internally with hard matter.

23 Inane, filled only with ſpongy matter.

24 Pulpous, filled with tenacious or glutinous matter.

25 Carnous, or fleſhy, filled with a hardiſh pulp.

26 Cartilaginous, conſiſting of griſtly matter.

27 Membranous, conſiſting of dry and ſkinny matter.

28 Fiſtulous, tubulated or hollow within.

No. V. Divisio *eſt vel,*

29 Fiſſa, diviſa marginibus rectis.

30 2—5 fida, pro numero fiſſurarum.

31 Partita, ad baſin fere diviſa.
32 2—5 partita, pro numero diviſionum.

33 Lobata, ad dimidium diviſa in partes diſtantes.

34 Sinuata, lateribus ſinus dilatatos admittens.

35 Dichomata, trichomata, &c. in duas treſve partes ſemper diviſa.

No. VI. Directio *eſt vel,*

36 Recta, flexuris deſtituta.
37 Erecta, fere ad perpendiculum ſe attollens.
38 Obliqua, a perpendiculari vel horizontali linea diſcedens.
39 Aſcendens, arcuatim ſurſum verſa.
40 Declinata, arcuatim deorſum verſa.

41 Incurvata, arcuatim introrſum verſa.
42 Nutans, apice extrorſum verſa.

43 Reflexa, partibus retrorſum flexis.
44 Revoluta, in ſpiram recurvata.
45 Procumbens, debilis terræ innitens.
46 Flexuoſa, horſum verſum flexa.

No. V. Division *is either,*

29 Fiſſured, or divided by linear notches, with ſtraight margins.

30 Bifid, trifid, &c. to quinquefid, according to the number of fiſſures.

31 Partite, divided almoſt to the baſe.

32 Bipartite, tripartite, &c. to quinquepartite, according to the number of diviſions.

33 Lobate, or lobed, divided down to the middle into parts ſtanding aſunder.

34 Sinuted, admitting of wide ſinuſes or notches on the ſides.

35 Dichotomous, trichotomous, &c. divided ſucceſſively into two, three, or more parts.

No. VI. Direction *is either,*

36 Right, or ſtraight, free of bendings.

37 Erect, riſing nearly to a perpendicular.

38 Oblique, departing from a perpendicular, or horizontal line.

39 Aſcending, or turned archwiſe upward.

40 Declining, or declined, turned archwiſe downward.

41 Incurvated, turned archwiſe inward.

42 Nutant, nodding, having the point turned inward.

43 Reflex, having any part turned inward.

44 Revolute, rolled back into a ſpinal line.

45 Procumbent, weak and leaning on the ground.

46 Flexuoſe, bent hither and thither.

Termini ſequentes pertinent potiſſimum ad directionem ramorum.

47 Patens, exprimit directionem anguli acuti ſupra gradum.
48 Divergens, ad angulum rectum diſcedens.
49 Divaricata, exprimit directionem anguli obtuſi.
50 Dependens, terram rectà ſpectans.
51 Diſticha, duo latera reſpicientes, licet undique inſerti.

52 Secunda, omnes ad alterum latus flexi.
53 Adpreſſa, quum cauli paralleli approximantur.

54 Coarctata, verſus ſummitatem fere incumbentes.
55 Diffuſa, ramulis patentibus.

No. VII. Figura *eſt vel Superficierum, vel Solidorum, vel ex Analogia mutuata.*

a. Superficierum eſt vel,

56 Orbiculata, figuræ circularis.
57 Subrotunda, ſubcircularis, et ſubgloboſa.

58 Ovata, cujus diameter longitudinalis ſuperat tranſverſalem, baſi ſegmento circuli circumſcripta, apici anguſtiore.

59 Parabolica, parabolam referens.
60 Elliptica, ellipſin referens.

The following terms reſpect chiefly the direction of branches.

47 Patent, expreſſes the direction of an acute angle, or an angle above 45 degrees.

48 Diverging, parting at a right angle.

49 Divaricated, expreſſes the direction of obtuſe angle.

50 Dependent, looking ſtraight to the ground.

51 Diſtich, or diſtichated, [flowers, leaves, or branches,] turning to the two ſides, though inſerted all round.

52 Sequent, turning all to one ſide.

53 Appreſt, approaching ſo as to be almoſt parallel to one ſtalk or trunk.

54 Coarctate, almoſt incumbent towards the top.

55 Diffuſe, having ſmall pointed branches.

No. VII. Figure *is that, either of Surfaces, or Solids, or Similitudes.*

a. The Figure of a Surface is either,

56 Orbicular, of a circular form.

57 Subrotund, almoſt circular; and ſubgloboſe, almoſt ſpherical.

58 Ovate, having its longitudinal diameter longer than the tranſverſe, with the baſe terminated by a ſegment of a circle, and the top narrower.

59 Parabolical, reſembling a parabola.

60 Elliptical, reſembling ellipſe or oval.

61 Cuneiformis, ſenſim verſus baſin anguſtata.

62 Oblonga, diametro longitudinali aliquoties ſuperante tranſverſalem.

63 Lanceolata, oblonga, ab utraque extremitate attenuata.

64 Linearis, æquali ubique latitudine.

65 Triangularis, quadrangularis, &c. pro numero angulorum.

66 Rhombea, forma rhombi.

67 Trapeziformis, forma trapezii.

b. Solidorum eſt vel,

68 Filiformis, æquabili ubique craſſitie.

69 Attenuata, verſus apicem craſſiitiem perdens ſenſim.

70 Subulata, linearis, ſed verſu*c* apicem attenuata.

71 Clavata, verſus apicem incraſſata.

72 Turbinata, obverſe eonica.

73 Globoſa, figura ſphæræ.

74 Conica, conum referens.

75 Teres, cylindrum referens.

76 Semiteres, ſemicylindrica.

77 Anceps, angulis duobus oppoſitis acutis.

61 Cuneiform, wedge-ſhaped, growing by degrees narrower towards the baſe.

62 Oblong, having the longitudinal diameter any number of times longer than the tranſverſe diameter.

63 Lanceolate, oblong, and attenuated on either end.

64 Linear, every where of equal breadth.

65 Triangular, quadrangular, according to the number of angles.

66 Rhombeous, or rhomboidal, of the ſhape of a rhombus.

67 Trapeziform, of the ſhape of trapezium.

b. The Figure of Solids is either,

68 Filiform, every where of equal thickneſs.

69 Attenuated, gradually loſing its thickneſs towards the point.

70 Subulated, awl-ſhaped; linear, but attenuated towards the point.

71 Clavated, club-ſhaped, growing thicker towards the point.

72 Turbinated, top-ſhaped, like an inverted cone.

73 Globoſe, globular, like a ſphere.

74 Conical, reſembling a cone.

75 Teres, round, like a cylinder.

76 Semiteres, half-round, ſemicylindrical.

77 Anceps, two-edged, having the two oppoſite angles acute.

78 Trigona, tetragona, &c. angulis tribus, quatuor, &c. prominentibus longitudinalibus.

79 Triquetra, lateribus tribus exacte planis.

80 Gibba, utraque ſuperficie convexa, mediante copioſiore pulpa.

81 Compreſſa, pulpoſa, lateribus magis quam diſco complanatis.

82 Depreſſa, pulpoſa, diſco magis quam lateribus complanato.

83 Lingulata, linearis, carnoſa, ſubtus convexa.

84 Enſiformis, anceps, a baſi ad apicem ſenſim attenuata.

85 Acinaciformis, compreſſa, carnoſa, altero margine convexo auguſto, altera rectiore craſſiore.

86 Dolabriformis, compreſſa, ſubrotunda, extrorſum gibba, acie acuta, inferne teretiuſcula.

Tubuloſæ figuræ, quæ plerumque ad corollam pertinent, ſunt,

87 Infundibuliformis, conica tubo impoſita.

88 Campanulata, ventricoſa, tubo deſtituta.

89 Inflata inſtar veſicæ, cava.

78 Trigonous, tetragonous, &c. having three, four, &c. prominent longitudinal angles.

79 Triquetrous, having three exactly plain ſides.

80 Gibbous, or gibboſe, having both upper and under ſurface convex, by reaſon of a more copious pulp intervening.

81 Compreſſed, pulpous, having the edges flatter than the diſc or middle.

82 Depreſſed, pulpous, having the diſc flatter than the edges.

83 Lingulated, tongue-ſhaped; linear, carnous, convex below.

84 Enſiform, ſword-ſhaped, ancipitous, gradually attenuated, or tapering from the baſe to the top.

85 Acinaciform, ſabre-ſhaped, compreſſed, carnous, having the one edge convex and thin, and the other ſtraighter and thicker.

86 Dolabriform, hatchet-ſhaped, compreſſed, ſubrotund, gibbous on the outſide, with the edge ſharp, and roundiſh below.

The tabulated figures that are moſtly applied to the corolla are,

87 Infundibuliform, funnel-ſhaped, an inverted cone placed upon a tube.

88 Campanulated, bell-ſhaped, ventricoſe, without any tube.

89 Inflated, hollow, and as it were blown up like a bladder.

90 Rotata, plana, nulli tubo impoſita.

c. Ex Analogia, eſt vel,

91 Cordata, ſubovata, baſi ſinu exſculpta, abſque angulis poſticis.

92 Reniformis, ſubrotunda, baſi ſinu exſculpta, abſque angulis poſticis.

93 Lunata, ſubrotunda, baſi ſinu diviſa, angulis poſticis acutis.

94 Sagittata, triangularis, angulis poſticis acutis ſinu diviſis.

95 Haſtata, ſagittata, angulis poſticis ſinu diviſis, ad latera prominentibus.

96 Lyrata, tranſverſim diviſa in lacinias, quarum inferiores remotiores.

97 Runcinata, pinnatifida, (*i. e.* tranſverſim diviſa in lacinias horizontales oblongas), ita ut lobi, antice convexi, poſtice ſint tranſverſi, *e. g.* leontodon.

98 Panduriformis, oblonga, lateribus inferne anguſtata.

99 Spathulata, ſubrotunda, baſi anguſtiore lineari.

90 Rotated, wheel-ſhaped, plain, and not placed on a tube.

c. *The Figure of Similitudes is either,*

91 Cordate, heart-ſhaped, ſubovate, having a notch cut out of the baſe, without any poſterior angles.

92 Reniform, kidney-ſhaped, ſubround, having a a notch cut out of the baſe, without poſterior angles.

93 Lunular, creſcent-ſhaped, ſubrotund, having the baſe notched with acute poſterior angles.

94 Sagittated, arrow-ſhaped, triangular, having acute poſterior angles ſeparated by a notch.

95 Haſtated, halbert-ſhaped, ſagittated, having the the poſterior angles divided by a blunt notch, and prominent toward the ſides.

96 Lyrated, lyre-ſhaped, divided acroſs into laciniæ, or ſegments of no determinate form, whereof the under ones are leſſer and more remote from one another than the upper ones.

97 Runcinated, pinnatifid (*i.e.* divided acroſs into horizontal oblong ſegments), in ſuch ſort that the ſegments are convex on the fore-ſide and tranſverſe behind, *e. g.* the dandelion.

98 Panduriform, pandour-ſhaped, oblong, and coarctated or narrowed below.

99 Spathulated, ſubrotund or roundiſh, with a linear and narrower baſe.

100 Palmata, diviſa ultra dimidium in lobos ſubæquales.

101 Ventricoſa, a lateribus gibba.

102 Deltoïdea, rhombea, ex quatuor angulis, e quibus laterales minus a baſi diſtant quàm reliqui. Confer folia populi nigræ.

No. VIII. Expansio *eſt vel,*

103 Plana, ſuperficie æquali.

104 Canuliculata, ſupra ſulco profundo longitudinaliter excavata.

105 Concava, margine diſco arctiore, ut deprimatur diſcus.

106 Convexa, margine diſco arctiore, ut elevetur diſcus.

107 Cucullata, lateribus ad baſin conniventibus, apice vero dilatatis.

108 Undata, diſco plicis obtuſis alternatim flexo.

109 Criſpa, margine luxuriante, ut diſcus evadat longior ſua rachi.

No. IX. Locus.

a. Folium eſt vel,

110 Radicale, radici inſidens.

100 Palmated, divided paſt the middle into lobes nearly equal.

101 Ventricoſe, gibbous or ſwelling out on the ſides.

102 Deltoïd, rhomboïdal, conſiſting of four angles, of which the lateral ones are leſs diſtant from the baſe than the other two; as the leaves of black poplar.

No. VIII. Expansion *is either*,

103 Plain, having an equal ſurface.

104 Canuliculated, hollowed above with a deep longitudinal furrow.

105 Concave, by the margin being leſs in proportion than the diſk, and the diſk of courſe depreſſed or puſhed downwards.

106 Convex, by the margin being leſs in proportion than the diſk, ſo that the diſk is elevated or puſhed upwards.

107 Cucullated, cowl-ſhaped, having the edges folded or curling inwards at the baſe, and ſpreading at top like a cowl.

138 Undated, waved, having the diſk alternately bending up and down in obtuſe plaits.

109 Criſped, curled, by having the margin ſo luxuriant that the diſk becomes longer than its rachis or quill.

No. IX. Place.

a. A Leaf is either,

110 Radical, growing out of the root.

111 Caulinum, cauli inſidens.
112 Rameum, ramo inſidens.
113 Axillare, ſub rami baſi inſertum.
114 Florale, flori proximum.

b. Stipula.

115 Lateralis, lateribus petioli inſerta.
116 Extrafoliacea, infra folium collocata.
117 Intrafoliacea, ſupra folium collocata.
118 Oppoſitifolia, in latere folio oppoſito collocata.

c. Cirrhus.

119 Petiolaris, petiolo inſidens.
120 Peduncularis, pedunculo inſidens, &c. &c.

No. X. SITUS *partium plantæ eſt vel,*

121 Oppoſitus, cùm folia, &c. per paria oppoſitè collocata ſint.
122 Alternus, per gradus circúm ramum exorta.

123 Decuſſatus, ita diſpoſita oppoſite, ut, apice inſpecto, quatuor ordines referant.

124 Verticillatus, plura truncum ad genicula circumdantia.

125 Bifarius, ad latera rami oppoſita tantum enata.

111 Cauline, growing on the caulis or ſtalk.

112 Ramous, growing a branch.

413 Axillary, placed under the baſe of a branch.

114 Floral, next the flower.

b. A Stipula, or Scale, is either,

115 Lateral, inſerted into the ſide of a petiole.

116 Extrafoliaceous, placed below a leaf.

117 Intrafoliaceous, placed above a leaf.

118 Oppoſitifolious, placed on the ſide of the ſtalk oppoſite to the leaf.

c. A Chirrus, or Tendril, is either,

119 Petiolar, growing out of a petiole or leaf-ſtalk.

120 Peduncular, growing out of a peduncle, or flower-ſtalk.

No. X. *The* SITUATION *of the Parts of a Plant is either,*

121 Oppoſite, when the leaves, &c. are placed in decuſſated or croſs pairs.

122 Alternate, growing all round a ſtalk or branch one after another gradually.

123 Decuſſated, placed oppoſite in ſuch a manner, that if one look down from the top of the plant, the leaves, &c. repreſent four diſtinct rows.

124 Verticillated, whirled; leaves, flowers, &c. ſurrounding the ſtalk or trunk at the joints in great number like a whirl.

125 Bifarious, leaves, &c. growing only on the oppoſite ſides of a ſtalk or branch.

126 Sparſus, abſque certo ordine conſtituta.

127 Faſciculatus, plura ex eodem puncta prodeuntia.

128 Confertus, plurima totam fere ſuperficiem occultantia.

129 Diſtans, ſitu remota.

130 Terminalis, ad apicem poſita.

No. XI. Superficies *eſt vel,*

131 Nuda, ſetis et pilis deſtituta.

132 Lævis, ſuperficie æquali. Idem quod plana.

133 Glabra, ſuperficie lubrica.

134 Nitida, glabritie lucente.

135 Lucida, quaſi illuminata.

136 Colorata, alio colore quam viridi, (cum is ſit color naturalis.)

137 Lineata, nervis depreſſis.

138 Striata, lineis parallelis leviter excavata.

139 Sulcata, lineis profundis excavata.

[*Qui ſequuntur termini uſque ad* 148, *pertinent præcipue ad folia.*

140 Nervoſa, vaſis ſimpliciſſimis a baſi ad apicem.

141 Trinervis, tribus nervis in baſi concurrentibus.

142 Triplinervis, nervoſa, tribus nervis ſupra baſin concurrentibus.

126 Sparſe, placed without any certain order.

127 Faſciculated, pencilled, growing in numbers out of the ſame point like a pencil.

128 Confert, cloſe-ranged, leaves, &c. almoſt covering the whole ſurface.

129 Diſtant, parts removed from one another.

130 Terminal, placed at the top.

No. XI. *A* Surface *is either.*

131 Naked, deſtitute of ſetæ or briſtles, and pili or hairs.

132 Levigated, ſmooth, of an equal plainneſs. The ſame with the plain.

133 Glabrous, of a ſlippery nature.

134 Nitid, ſlippery and ſhining.

135 Lucid, as it were illuminated.

136 Coloured, of a colour different from green (when that is the natural colour).

137 Lineated, lined, the nerves being depreſſed.

138 Striated, gently furrowed in parallel lines.

139 Sulcated, furrowed in deep lines.

[*The following Terms, to* 148, *belong chiefly to Leaves.*]

140 Nervous, having unconnected ſmall veſſels, reſembling nerves, running from the baſe to the top.

141 Trinerved, having three ſmall nerves meeting at the baſe.

142 Triplinerved, having three nerves meeting above the baſe.

143 Trinervata, nervoſa, tribus nervis pone baſin concurrentibus.

144 Enervis, nervoſæ oppoſita, ſine nervis.

145 Venoſa, vaſis multifariam diviſis.

146 Avenis, venoſæ oppoſita, ſine venis.

147 Rugoſa, rugis referta.

148 Bullata, ex rugoſa venis contractis ab altera parte concava.

149 Lacunoſa, diſco depreſſo venas interjectas.

150 Punctata, adſperſa punctis excavatis.

151 Papilloſa, tecta punctis carnoſis.

152 Papuloſa, tecta punctis veſicularibus.

153 Scabra, punctis eminentibus rigidis exaſperata.

No. XII. MARGO *eſt vel*,

154 Integerrimus, ipſo margine lineari, nec minimum ſecto.

155 Crenatus, margine inciſuris ſine reſpectu extremitatis ſecto.

156 Serratus, omnibus inciſuris reſpicientibus extremitatem.

157 Ciliatus, ſetis parallelis longitudinaliter digeſtis.

143 Trinervated, having three nerves meeting below the baſe.

144 *Enervis*, nerveleſs, the oppoſite to nervous.

145 Venous, having veins or ſmall veſſels divided variouſly, without any regular order.

146 *Avenis*, veinleſs, the oppoſite to venous.

147 Rugoſe, wrinkled, full of wrinkles.

148 Bullated, having the ſurface, from being rugoſe, raiſed up in the form of bubbles, by the veins being contracted, the other ſide by that means becoming concave.

149 Lacunous, pitted, by the diſk being depreſſed between the interſperſed veins.

150 Punctuated, beſprinkled with hollow points.

151 Papillous, covered with carnous or fleſhy points.

152 Papulous, covered with veſicula or bladder-like points.

153 Viſcid, beſmeared with a glewy moiſture.

No. XII. *A* MARGIN *is either*,

154 Entire, linear without the leaſt dent or notch.

155 Crenated, having notches without reſpect to the extremity.

156 Serrated, ſaw-toothed, all the notches and teeth looking towards the extremity.

157 Ciliated, having paralled briſtles ſet in a row lengthwiſe, like eye-laſhes.

158 Dentatus, acuminibus patentibus remiſſis.

159 Repandus, margine flexuoſo tamen plano.

No. XIII. Apex *eſt vel,*

160 Obtuſus, intra ſegmentum circuli terminatus.

161 Emarginatus, crena terminatus.
162 Retuſus, terminatus ſinu obtuſo.
163 Truncatus, linea tranſverſali terminatus.
164 Acutus, terminatus angulo acuto.
165 Acuminatus, apice ſubulato terminatus.

166 Cuſpidatus, terminatus apice ſetaceo.

TERMINI SPECIALES.

No. XIV. Radix.

167 Fibroſa, tota conſtans fibrillis.
168 Bulboſa, bulbo inſtructa.
169 *a.* Solida.
170 *b.* Squamata, ſquamis imbricatis.
171 *c.* Tunicata, inſtructa tunicis extra tunicas.
172 Tuberoſa, e partibus carnoſis filo baſi connexis.
173 Faſcicularis, e partibus carnoſis baſi ſeſſili connexis.
174 Granulata, particulis carnoſis compoſita.
175 Fuſiformis, ſimpliciuſcula attenuata.
176 Repens, longe excurrens, hinc inde germinans, articulata, geniculis intercepta.

158 Dentated, toothed, with the points patent and aſunder.

159 Repand, having a plain ſerpentine form.

No. XIII. *An* Apex, *or Point, is either,*

160 Obtuſe, terminated within the ſegment of a circle.

161 Emarginated, terminated by a notch.

162 Retuſe, terminated by a round boſom.

163 Truncated, terminated by a tranſverſe line.

164 Acute, terminated by an acute angle.

165 Acuminated, terminated by a ſublated or awl-ſhaped point.

166 Cuſpidated, terminated by a briſtle or prickle.

SPECIAL TERMS.

No. XIV. *A* Root *is either,*

167 Fibrous, conſiſting wholly of ſmall fibres.

198 Bulbous, furniſhed with a bulb.

169 *a.* Solid.

170 *b.* Scaly, with the ſcales imbricated.

171 *c.* Tunicated, having coats above coats.

172 Tuberous, conſiſting of fleſhy parts connected by threads to the baſe.

173 Faſcicular, conſiſting of fleſhy parts connected to the baſe without the intervention of threads.

174 Granulated, compoſed of ſmall fleſhy particles.

175 Fuſiform, ſpindle-ſhaped, ſingle and tapering.

176 Repent, running out a great way, and budding here and there.

No. XV. Truncus.

177 *a.* Caulis, truncus elevans et fructificationem et folia.

178 *b.* Culmus, graminibus proprius.

179 *c.* Scapus, elevans fructificationem, nec folia.

180 *d.* Stipes, truncus in folia tranſiens.

181 Scandens, alta petens, aliis ſuſtinendus.

182 Volubilis, ſpiraliter aſcendens per alia corpora.

183 Repens, terræ incumbens, radiculaſque agens.

184 Sarmentoſus, filiformis, geniculis radicantibus.

185 Stoloniferus, turiones ad radicem edens.

186 Simpliciſſimus, ramis vix ullis.

187 Simplex, continua ſerie verſus apicem extenſus.

188 Integer, ſimpliciſſimus, ramis anguſtatis.

189 Prolifer, ex apicis centro tantum emittens ramos.

190 Subramoſus, ramis pauciſſimis lateralibus.

191 Ramoſus, ramis pluribus lateralibus.

No. XV. *A* Trunk *is*,

177 *a.* A ſtem or ſtalk; a trunk ſupporting both the fructification and the leaves.

178 *b.* A culm, proper to graſſes.

179 *c.* A ſcapus or ſhaft; a trunk ſupporting the fructification, but not the leaves.

180 *d.* A ſtipes or ſtock; a trunk changing into leaves.

181 Scandent, climbing, but needing the ſupport of other bodies.

182 Voluble, twining, aſcending in a ſpiral line by the aſſiſtance of other bodies.

183 Repent, creeping, lying on the ground and ſending out roots here and there.

184 Sarmentoſe, full of twigs, filiform, with rooting joints.

185 Stoloniferous, putting forth young ſhoots at the root, or tillering.

186 *Simpliciſſimus*, very ſingle, having ſcarcely any branches.

187 *Simplex*, ſingle, with the branches gathering inwards.

188 Entire, very ſingle, with the branches gathering inwards.

189 Proliferous, putting forth branches only from the middle of the top.

190 Subramoſe, having only a few lateral branches.

191 Ramoſe, having many lateral branches.

192 Ramoſiſſimus, ramis multis abſque ordine cumulatis.

193 Virgatus, ramuſculis debilibus inæqualibus.

194 Paniculatus, ramis varie ſubdiviſis.

No. XVI. PETIOLUS.

195 Alatus, lateribus dilatatus.

196 Spineſcens, indureſcens et pungens.

No. XVII. FOLIUM *eſt vel ſimplex vel compoſitum.*

a. Simplex.

197 Submerſum, intra aquæ ſuperficiem abſconditum.

198 Natans, ſuperficiei aquæ incumbens.

199 Acceroſum, lineare, perſiſtens.

Inſertio Foliorum.

200 Petiolatum, petiolo ad baſin inſerto.

201 Peltatum, petiolo diſco folii inſerto.

202 Adnatum, pagina ſuperiore baſi ramis adnexum.

203 Connatum, oppoſitorum paribus baſi utrinque coadunitis.

204 Coadunitum, plura inter ſe connata.

205 Decurrens, baſi folii deorſum per caulem extenſa.

192 *Ramoſiſſimus*, very ramoſe, loaded with numerous branches, without any determinate order.

193 Virgated, having ſmall weak pliant branches of unequal length.

194 Panicled, having branches variouſly ſubdivided.

No. XVI. *A* Petiole *is either filiform, or,*

195 Alated, winged, dilated on the ſides.

196 Spineſcent, hard and prickling.

No. XVII. *A* Leaf *is either ſimple or compound.*

a. A ſimple Leaf may be,

197 Submerſed, hid under the ſurface of water.

198 Natant, ſwimming, lying on the ſurface of the water.

199 Acerous, chaff-like, linear and perſiſtent.

The Inſertion of Leaves.

200 Petiolated, having a petiole inſerted at its baſe.

201 Peltated, or targetted, having the petiole in the diſk of the leaf.

202 Adnate, connected with the branches at the baſe on the upper ſide.

203 Connate, having the oppoſite pairs united at the baſe on each ſide.

204 Coadunite, having more than two united.

205 Decurrent, having the baſe of the leaf running along the ſtalk downwards.

206 Amplexicaule, baſi caulem ambiente.

207 Perfoliatum, baſi tranſverſim cingente (nec antice dehiſcente) caulem.

208 Vaginans, baſi formante tubum, caulum veſtientem.

b. Compoſitum, petiolo plura quam unum proferente folia.

209 Articulatum, folio ex apice folii excreſcente.

210 Digitatum, petiolo ſimplici apici adnectente foliola. Binatum, ternatum, &c. modificationes ejus ex numero.

211 Pedatum, petiolo bifido, latere tantum interiore adnectente foliola plura.

212 Pinnatum, petiolo ſimplici lateribus adnectente foliola plura. Bijugum, quadrijugum, &c. foliolis tantum quatuor, octo, &c. &c.

Cum impari, foliolo unico (impari) terminatum.

Abrupte, nec cirrho nec foliolo terminatum.

Cirrhoſum, cirrho terminatum.

Foliolis oppoſitis.

206 Amplexicaul, having the baſe ſurrounding or embracing the ſtalk.

207 Perfoliated, having the baſe ſurrounding the ſtalk ſtraight acroſs, without any opening before.

208 Vaginating, or ſheathing, having the baſe forming a tube that covers the ſtalk.

a. A Leaf is called Compound, when the ſame Petiole produces more Leaves than one. It is

209 Articulated, joined, when one leaf joins out of the top of another.

210 Digitated, when a ſimple petiole connects leaflets or ſmall leaves at the top. Binate, ternate, &c. are modifications of it according to the number of leaflets thus connected.

211 Pedated, when a bifid or forked petiole connects ſeveral leaflets only by the interior ſide.

212 Pinnated, or feathered, when a ſimple petiole connects any number leaflets to its ſides. Bijugous (double paired), quadrijugous (four-paired), &c. when only four, eight, &c. &c. leaflets are thus connected:

Pinnated with an odd one, when terminate by a ſingle or odd leaflet.

Abruptly, when terminated neither by a tendril nor by a leaflet.

Cirrhous, when terminated by a tendril.

With oppoſite leaflets.

Foliolis alternis.

Foliolis interruptis, foliolis alternis minoribus.

Foliolis decurſivis, ſoliolis petiolo decurrentibus.

c. Decompoſitum.

213 Bigeminum, petiolo dichotomo, apice adnectente foliola bina.

214 Biternatum, duplicato ternatum.

215 Bipinnatum, duplicato pinnatum.

d. Supradecompoſitum.

216 Tergeminum, cum petiolus bis dichotomus ſingulis apicibus bina fert foliola.

217 Triternatum, triplicato ternatum.

218 Tripinnatum, triplicato pinnatum.

STIPULA.

CIRRHUS.

No. XVIII. PUBES.

219 Tomentum, villi intertexti vix conſpicui.

220 Pili, ductus excretorei plantæ ſetacei.

221 Villi pili molles.

222 Lana, pili curvi, denſi.

With alternate leaflets.

With interrupted leaflets, when the leaflets are alternately greater and ſmaller.

With decurſive leaflets, or leaflets running down the petioles.

c. A Decompound Leaf is either,

213 Bigeminous, q. double-twin, leaves, when the petiole is dichotomous, or ſucceſſively divided into two, and every top carried a pair of leaflets.

214 Biternated, doubly ternated.

215 Bipinnated, doubly pinnated.

d. A Supradecompound Leaf is either,

216 Tergeminous, while the petiole, being twice dichotomous, or divided into two, bears a pairs of leaflets.

217 Triternated, thrice ternated.

218 Tripinnated, thrice pinnated.

Stipula, or Scale.

Cirrhus, or Tendril.

No. XVIII. PUBES, *the hair, wool, &c. of plants, is either,*

219 *Tomentum*, a ſtock, fine interwoven hairs ſcarcely viſible.

220 *Pili*, excretory ducts of a plant reſembling ſetæ or briſtles.

221 *Villi*, ſoft hairs.

222 *Lana*, curled thick hairs.

223 Barba, pili paralleli.
224 Strigæ, pili rigidi plani.
225 Setæ, pili rigidi teretes.
226 Palea, lamella membranacea.
227 Hamus, mucro acuminatus curvatus.
228 Glochis, mucro apici retrorſum multidentatus.
229 Glandula, papilla humorem excernens.
230 Utriculus, vaſculum liquore ſecreto repletum.
231 Viſcoſitas, qualitas humoris tenacis.
232 Glutinoſitas, qualitas humoris lubrici.

No. XIX. ARMA.

233 Aculei, mucrones pungentes plantæ cortici tantum affixi.
234 Furca, aculeis diviſis in plures.
235 Spinæ, mucro e ligno plantæ protruſus.
236 Stimuli, mucrones puncturas exflammatorias efficientes, unde pruriginoſæ evadant partes.

No. XX. BRACTEA.

237 Coma, bracteæ caulem terminantes, magnitudine inſignes.

223 *Barba*, a beard, parallel hairs.

224 *Strigæ*, comb-teeth, ſtiff rigid plain hairs.

225 *Setæ*, briſtles, ſtiff round hairs.

226 *Palea*, a membranaceous ſcale.

227 *Hamus*, a hook, an acuminated crooked point.

228 *Glochis*, a point or prickle with many teeth turned backwards.

229 Glandule, a papilla, or ſmall gland ſecreting moiſture.

230 Utricle, a ſmall veſſel full of ſecerned moiſture.

231 Viſcoſity, expreſſes the quality of tenacious moiſture.

232 Glutinoſity, expreſſes the quality of ſlippery humour.

No. XIX. ARMA, *The arms of plants are either*,

233 *Aculei*, prickles, prickling points affixed only to the bark.

234 *Furcæ*, forks, prickles divided or forked.

235 *Spinæ*, thorns, points or prickles put forth from the wood of the plant.

236 *Stimuli*, points producing the inflammatory punctures, where the parts become itching.

No. XX. *A* BRACTEA *is either*,

237 *Coma*, the bracteæ or ſpangles on the top of the ſtalk of ſome plants, remarkable in ſize compared to the other leaves.

No. XXI. Pedunculus.

238 Communis, communis pluribus floribus.

239 Partialis, pedunculi communis aliquot flores proferens.

240 Pedicellus, proprius floribus in pedunculo communi.

241 Cernuus, apice terram ſpectans.

242 Retrofractus, vi quaſi ad dependentiam redactus.

243 Multiflorus, multos flores proferens.

244 Inflorescentia, modus, quo flores pedunculo plantæ adnectuntur.

245 *a.* Verticillus, floribus pluribus caulem annulatim ambientibus.

246 *b.* Capitulum, floribus pluribus in globum congeſtis.

247 *c.* Faſciculus, colligens flores erectos, parallelos, faſtigiato-approximatos.

248 *d.* Spica, flores ſeſſiles alterni in pedunculo communi ſimplici.

249 Simplex, continua, indiviſa.

250 Compoſita, pluribus ſpicillis pedunculo inſidentibus.

No. XXI. *A* PEDUNCLE *is either*,

238 Common, to more flowers than one.

239 Partial, bearing any number of flowers of the common peduncle.

240 A pedicle, proper to flowers in a common peduncle.

241 Cernuous, ſtooping, having the top looking to the ground.

242 Retrofract, broken backward, reduced to a depending ſtate as if by force.

243 Multiflorous, producing many flowers.

244 INFLORESCENCE is the mode in which flowers are connected to the peduncle of a plant; and this is either,

245 *a. Verticillus*, a whirl, when a number of flowers ſurround the plant in a ring.

246 *b. Capitulum*, a knot, when a number of flowers are collected together in the form of a globe. It ſignifies alſo the upper parts of the fructification of moſſes.

247 *c. Faſciculus*, a bunch, when erect parallel flowers of equal height are collected together.

248 *d. Spica*, a ſpike, when ſeſſile alternate flowers are placed on a common ſimple peduncle. A ſpike is either,

249 Simple, continued and undivided.

250 Compound, when more ſmall ſpikes ſtand on one peduncle.

251 Glomerata, ſpicillis varie congeſta.

252 Interrupta, ſpicis minoribus alternis diſtantibus.

253 *e.* Corymbus fit ex ſpica, dum ſinguli flores petiolis propriis inſtruuntur, ſitu elevato proportionali.

254 *f.* Racemus, pedunculo ramis lateralibus inſtructo.

255 Unilateris, flores ad alterum latus omnes inſerti.

256 *g.* Panicula, flores ſparſi, in pedunculis diverſe diviſis.

257 *h.* Thyrſus, panicula coarctata in formam ovatam.

258 *i.* Umbella, receptaculum, ex eodem centro elongatum in pedunculo filiformes proportionatos.

259 Simplex, pedunculis omnibus ex uno eodemque receptaculo ortis.

260 Compoſita, omnibus pedunculis apice umbellulas gerentibus.

251 Glomorated, when the ſmall ſpikes are crowded together without any certain order.

252 Interrupted, when the ſmaller ſpikes are placed alternately and diſtant one from another.

253 *e.* A *corymbus* is formed of a ſpike, having every ſingle flower provided with a pedicle of its own, and the whole elevated to a proportionable height.

254 *f. Racemus*, a cluſter, when the common peduncle has lateral branches.

255 Unilateral, when all the flowers grow on one ſide.

256 *g. Panicula*, a panicle, when the flowers are ſparſe, and grow on peduncles variouſly divided.

257 *h. Thyrſus*, a panicle gathered into an ovate form.

258 *i. Umbella*, an umbel; a receptacle lengthened out from one centre into filiform peduncles riſing to a proportionable height, ſo as to reſemble an umbrella above.

259 Simple, when all the peduncles ſpring out of one and the ſame receptacle.

260 Compound, when every peduncle carries a ſmall umbel on its top.

261 Umbellula ſeſſilis, plures pedunculi ex eodem centro ambitu æquali prodeuntes.

262 Cyma, receptaculum ex eodem centro univerſali, partialibus vero vagis, elongatum in pedunculos faſtigiatos.

263 Rachis, receptaculum filiforme floſculos longitudinaliter adnectens in ſpicam.

264 Spadix, receptaculum palmæ enatum intra ſpatham, in ramulos fructificantes diviſum.

No. XXII. Fructificatio.

265 Vegetabilium pars temporaria generationi dicata.

266 Simplex, paucis floribus conſtans.

267 Compoſita, pluribus floſculis confluentibus.

A. *Calix.*

268 *a.* Perianthеum, calix fructificationi contiguus.

269 Fructificationis, ſtamina germenque includens.

270 Floris, ſtamina abſque germine continens.

271 Fructûs, germen abſque ſtaminibus continens.

272 Proprium, quemlibet florem reſpiciens.

261 *Umbellula ſeſſilis*, a ſmall ſeſſile umbel, when a number of peduncles riſe from the ſame centre, and ſtand equally all around it.

262 *Cyma*, a receptacle riſing from the ſame general centre, with partial ones here and there, and lengthened into peduncles all equally high at top.

263 *Rachis*, a filiform receptacle connecting any number of florets into a long ſpike.

264 *Spadix*, the receptacle of a palm-tree riſing within a *ſpatha* or ſheath, and divided into fructifying branches.

No. XXII. FRUCTIFICATION *is*,

265 The temporary part of a vegetable deſtined to generation; and is either,

266 Simple, conſiſting of few flowers.

267 Compound, when a number of flowers are ſet together.

A. *Calyx*, the Cup.

268 *a. Perianthеum*, a cup contiguous to the fructification.

269 Of the fructification, containing the ſtamen and the germen.

270 Of the flower, containing the ſtamina without a germen.

271 Of the fruit, containing a germen without a ſtamina.

272 Proper, belonging to any particular flower; and is either,

273 Monophyllum, unico folio abſolutum.

274 Polyphyllum, pluribus foliis conſtans.

275 Superum, cui germen ſub receptaculo.

276 Inferum, cui germen ſupra receptaculum.

277 Commune, plures flores congregatos continens.

278 Caliculatum, calice quaſi alio minore calice ad baſin cincto.

279 *b.* Involucrum, calix a flore remotus.

280 Univerſale, umbellæ univerſali ſubjectum.

281 Partiale, umbellæ partiali ſubjectum.

282 Proprium, cuilibet flori ſubjectum.

283 *c.* Gluma, calix graminis, valvis amplexantibus.

284 Uniflora, unicum florem amplectens.

285 Multiflora, plures flores includens.

286 Ariſta, mucro ſubulatus glumæ inſidens.

287 Tortilis, flexa funis inſtar:

273 Monophyllous, conſiſting only of one leaf.

274 Polyphyllous, conſiſting of a number of leaves.

275 Superior, having the germen below the receptacle.

276 Inferior, having the germen above the receptacle.

277 Common, containing a number of flowers ſet together.

278 Caliculated, a calyx or cup, having as it were another leſſer cup round its baſe.

279 *b. Involucrum*, or wrapper, a cup remote from a flower.

280 Univerſal, ſet under a partial umbel.

281 Partial, ſet under a partial umbel.

282 Proper, ſet under any particular flower.

283 *c. Gluma*, a glume or chaff, the cup of any kind of graſs, conſiſting of valves embracing one another. Either

284 Uniflorous, containing a ſingle flower.

285 Multiflorous, containing any number of flowers.

286 Ariſta, or awn, a tapering point growing out of the glume or chaff; either ſtraight, or

287 Tortile, twiſted like a cord.

288 *d.* Amentum, ex receptaculo communi paleaceo gemmaceo.

289 *e.* Spatha, calix longitudinaliter ruptus.

290 *f.* Calyptra, calix muſci cucullatus antheræ ſuperimpoſitus.

291 *g.* Volva, calix fungi membranaceus.

B. *Corolla.*

292 Petalum, pars corolæ in plures diviſæ.

293 Tubes, corollæ monopetalæ pars inferior.

294 Limbus, corollæ monopetalæ pars ſuperior dilatata.

295 Unguis, corollæ polypetalæ pars inferior, receptaculo affixa.

296 Lamina, corollæ polypetalæ pars ſuperior patula.

297 Regularis, æqualis et ſimilis figura, ſitu, magnitudine, et proportione partium diverſa.

298 Irregularis, limbi partibus figura, magnitudine, et proportione partium diverſa.

299 Ringens, irregularis, in duo labia hians.

300 Galea-ringentis, labium ſuperius.

288 d. *Amentum*, a catkin, conſiſting of a chaffy common receptacle like a gem or bud.

289 e. *Spatha*, ſpath or ſheath, a cup opening longitudinally.

290 f. *Calyptra*, a hood, the cowl-ſhaped cup of ſome moſſes placed over the anthera.

291 g. *Volva*, the membranaceous cup of a muſhroon.

B. *Corolla, or the coloured part of a flower.*

292 Petal, a part of a carolla when divided into more parts than one.

293 Tube, the inferior part of a monopetalous corolla.

294 Limb, the ſuperior ſpreading part of a monopetalous corolla.

295 *Unguis*, the heel, the inferior part of a polypetalous corolla affixed to the receptacle.

296 *Lamina*, a lappet, the ſuperior ſpreading part of a polypetalous corolla.

297 Regular, equal in figure, magnitude, and proportion of parts.

298 Irregular, when the ſegments of the limb differ in figure, magnitude, or proportion of parts.

299 Ringent, irregular, gaping like two lips opened very wide.

300 *Galea-ringentis*, the vizard or upper lip of a ringent corolla.

301 Faux, hiatus inter licinias corollæ, ubi tubus terminatur.

302 Cruciata, petalis quatuor æqualibus patens.

303 Perſonata, ringens, ſed inter labia palato clauſa.

304 Papilionacea, irregularis, petalo inferiore cymbiformi (carina), ſuperiore aſcendente (vexillum, lateribus ſolitariis (alæ).

305 Compoſita, pluribus conſtans floſculis intra commune perianthium, ſupra receptaculum.

306 *a.* Ligulata, corollulis floſculorum omnibus planis, verſus exterius latus.

307 *b.* Tubuloſa, corollulis floſculorum omnibus tubuloſis ſubæqualibus.

308 *c.* Radiata, corollulis diſci tubuloſis, ambitus vero ligulatis difformibus.

309 Nectarium, pars mellifera propria.

C. *Stamen.*

310 Filamentum, pars elevans, adnectenſque antheram.

301 *Faux*, the throat or opening between the ſegments of a corolla, where the tube terminates.

302 Cruciated, croſſed, having four equal and patent petals.

303 *Perſonata*, maſked, ringent, but ſhut cloſe between the lips by the palate.

304 Papilionaceous, butterfly-ſhaped, irregular; the inferior petal being cymbiform, or ſhaped like a boat, (called the *carina* or keel); the ſuperior aſcending, (called the *vexillum* or flag); the ſide petals ſtanding ſingle, (called the *alæ* or wings).

305 Compound, conſiſting of a number of florets on a common receptacle, and within a common perianthium.

306 *a.* Ligulated, having all the exterior florets plain on the outſide.

307 *b.* Tubulous, having all the ſmall corollæ of the florets tubulated.

308 *c.* Radiated, having all the ſmall corollæ of the diſc tubulous, and thoſe of the circumference ligulated, and of a different form.

309 Nectary, the melliferous part, proper to any flower.

C. *Stamen, a Chive.*

310 Filament, the part ſupporting the anthera, connecting it with the plant.

311 Anthera, pars floris gravida polline quod matura dimittit.

312 Pollen, pulvis floris, humore rumpendus, atomoſque elaſticos ejaculans. (Genitura plantarum).

D. *Piſtillum.*

313 Germen, rudimentum fructûs immaturi in flore.

314 Superum, corollæ incluſum.

315 Inferum, infra corollam poſitum.

316 Stilus, pars piſtilli elevans ſtigma à gérmine.

317 Stigma, ſummitas piſtilli madida humore.

E. *Pericarpium.*

318 *a.* Capſula, pericarpium cavum determinate dehiſcena.

319 Valvula, paries quo tegitur fructus externè.

320 Loculamentum, concameratio cava pro ſeminum loco.

321 Diſſepimentum, paries, quo fructus internè diſtinguitur in concamerationes plures.

322 Bicapſularis, à numero capſularum.

323 Bilocularis, à numero loculamentorum.

311 Anthera, the part of a flower which is full of pollen, or fine flower-duſt, which it diſcharges as ſoon as itſelf comes to maturity.

312 Pollen, flower-duſt, burſting by being brought into contact with moiſture, and throwing out elaſtic atoms. (According to the principles of the ſexual ſyſtem, this is the origin of generation in plants).

D. *Piſtillum, a Piſtil.*

313 Germen, the rudiment of the unripe fruit in a flower. This is either,

314 Superior, included in the corolla.

315 Inferior, placed below the corolla.

316 Stile, the part of the piſtil that raiſes the ſtigma from the germen.

317 Stigma, the ſummit of the piſtil bedewed with moiſture.

E. *Pericarpium, a Fruit-caſe, is a*

318 *a.* Capſule, a fruit-caſe, hollow, and opening in a certain determinate manner.

319 Valvule, a ſcreen or defence with which the fruit is covered on the outſide.

320 *Loculamentum*, a hole or cavity for lodging the ſeeds.

321 *Diſſepimentum*, a partition by which the fruit is diſtinguiſhed or divided within into any number of cavities.

322 Bicapſular, having two capſules.

323 Bilocular, having two cavities.

324 Tricocca, capſula tribus nodis protuberans, intùſque in tria loculamenta diviſa, ſingulis unicum ſemen continentibus.

325 Didyma, capſulâ duobus nodis extus gibbâ.

326 *b.* Siliqua, pericarpium bivalve affigens ſemina ſecundùm utramque ſuturam.

327 Toruloſa, prominentiis hinc inde gibba.

328 Parallelum diſſepimentum, latitudine et diametro tranſverſali ad valvulas accedens.

329 Tranſverſum diſſepimentum, anguſtius ubi valvulæ coarctatæ evadunt concavæ.

330 *c.* Legumen, pericarpium bivalve, affigens ſemina ſecundùm ſuturam alteram tantùm.

331 Iſthmis interceptum, in varia loculamenta internè tranſverſim diſtinctum.

332 *d.* Folliculus, pericarpium univalve altero latere longitudinaliter dehiſcens, nec ſuturæ ſemina affigens.

324 Tricoccous, a capſule having three protuberant knobs, and divided into three cavities within, each containing one ſeed.

325 Didymous, having two knobs protuberant on the outſide.

326 *Siliqua*, a huſk, a fruit-caſe having two valves, and attaching the ſeeds along both ſutures.

327 *Toruloſa*, having prominences ſwelling out on each ſide.

328 *Parallelum diſſepimentum*, a parallel partition of equal breadth with the valves.

329 *Contrarium diſſepimentum*, a croſs partition narrower than the valves.

330 *c.* *Legumen*, a cod or ſwob, a pericarpium having two valves, and attaching the ſeeds only along the one ſuture.

331 *Iſthmis interceptum*, having parts at regular diſtances ſtraiter than the reſt, ſo as to divide it acroſs into different internal cavities.

332 *d.* Follicle, a pericarpium of one valve, opening longitudinally on one ſide, and not having the ſeeds attached to the ſuture.

333 *e.* Drupa, pericarpium farctum, evalve, continens nucem.

334 *f.* Pomum, pericarpium farctum, evalve, continens capſulam.

335 *g.* Bacca, pericarpium farctum, evalve, ſemina, cæteroquin nuda, continens.

336 Nidulantia, ſemina per pulpam ſparſa.

337 *h.* Strobilus, pericarpium ex amento factum ſquamis induratis.

F. *Semen.*

338 Hilum, cicatrix externa ſeminis ab ejuſdem affixione in fructu.

339 Corculum, primordium novæ plantæ intra ſemen.

340 Corona, caliculus ſupra adhærens, quo volitat.

341 Pappus, corona pennacea piloſave volitans.

342 Stipitatus, filo elevante et adnectente pappum et ſemen.

333 *e. Drupa*, a plum, a pericarpium ſtuffed with fleſhy ſubſtance, without any valve, and containing a nut or ſtone in the middle.

334 *f. Pomum*, an apple or pear, a pericarpium ſtuffed with fleſhy ſubſtance without valves, and containing a capſule or ſeed-caſe in the middle.

335 *g. Bacca*, a berry, a pericarpium full of pulpy or ſoft ſubſtance, without valves, and containing ſeeds, otherwiſe naked.

336 Nidulant, neſtling, ſeeds diſperſed through a pulpy or ſoft ſubſtance.

337 *h. Strobilus*, a cone, a pericarpium formed by the induration of the ſcales of a catkin.

F. *Semen, the Seed.*

338 *Hilum*, a ſpeck, the external ſcar or mark of the ſeed, occaſioned by its attachment to the fruit-caſe before it comes to maturity.

339 *Corculum*, the original ſubſtance of a new plant within a ſeed.

340 *Corona*, a crown or dreſs, adhering to the top of a ſeed, by which it is enabled to fly about after it is ripe.

341 *Pappus*, down, a feathery or hairy crown with which it flies.

342 *Stipitatus*, ſtalked, having a thread betwixt it and the down.

343 Capillaris, pilis indiviſis.
344 Plumoſus, pilis pennatis conſtans.

345 Cauda, ſemen terminatum filo.

346 Hamus.
347 Caliculus, tegmentum ſeminis proprium.

348 Nux, ſemine tecto epidermide oſſeo.

349 Arillus, tunica propria exterior ſeminis ſponte ſecedens.

G. *Receptaculum.*

350 Commune, plures flores et fructus continens.

351 Compoſitus flos, receptaculo dilatato, integro, floſculis ſeſſilibus.

352 Aggregatus flos, receptaculo dilatato, floſculis ſubpedicellatis.

Bulbus.
Gemma.

No. XXIII. Vernatio.

353 Foliorum diſpoſitio intra gemmam.
354 Conduplicata, foliorum lateribus parallel approximatis.

343 Capillary, conſiſting of fine undivided hairs.

344 Plumoſe, feathery, conſiſting of hairs feathered on the ſides.

345 *Cauda*, a tail, a thread or membrane at the end of a ſeed.

346 *Hamus*, a hook.

347 *Caliculus*, the interior and proper integument of a ſeed.

348 *Nux*, a kernel, a ſeed covered with a bony ſhell.

349 *Arillus*, the outer coat of a ſeed, which falls off of its own accord.

G. *Receptaculum, a Receptacle.*

350 Common, containing more flowers and fruits than one.

351 Compound, or compoſite flower, having the receptacle dilated and entire, the florets ſeſſile.

352 Aggregate flower, having the receptacle dilated, and the florets ſubpedicellated, or ſtanding on very ſhort flower-ſtalks.

Bulbus, a bulb.

Gemma, a gem or bud.

No. XXIII. Vernation *is the*

353 Diſpoſition of leaves within the bud.

354 Conduplicated, doubled together, having the oppoſite edges approaching each other in parallel lines.

355 Convoluta, cuculli in modum ſpiralia.

356 Involuta, lateribus verſus paginam ſuperiorem utrinque ſpiraliter contortis.

357 Revoluta, lateribus verſus paginam inferiorem utrinque ſpiraliter contortis.

358 Equitans, marginibus conniventia ſitu oppoſito, ut alterum includat alterum.

359 Obvoluta, pagina ſuperiore lateribus approximatis, ita ut alterum latus diſtinguat alterum folium.

360 Plicata, in plicas varias coarctata.
361 Circinalis, in ſpiram tranſverſalem coarctata, ut apex centrum obtineat.

No. XXV. TERMINI *addendi.*

362 Laxus, liberè flexibilis. Fere ſynonyma, debilis et flaccidus.

363 Rigidus, flexionis impatiens.
364 Articulatus, geniculis interceptus.
365 Enodis, ſine articulis.
366 Præmorſus, apice quaſi morſu abſciſſo.

367 Radicans, radices agens.

355 Convoluted, rolled together ſpirally like a cowl.

356 Involuted, rolled inwards, having the edges on both ſides rolled ſpirally, ſo as to be nearly met on the upper ſurface of the leaf.

357 Revoluted, rolled backwards, having the edges on both ſides rolled ſpirally ſo as to be nearly met on the back of the leaf.

358 Equitant, riding, when two leaves oppoſite to each other cloſe their edges, ſo that the one includes or claſps about the other.

359 Obvoluted, when two edges of one leaf cloſe on the upper ſurface, ſo that one edge divides or lies betwixt the two ſides of the other.

360 Plicated, plaited, gathered into various plaits.

361 Circinal, rolled ſpirally from the top to the baſe, ſo that the top comes to occupy the centre.

No. XXIV. General Terms *to be added.*

362 *Laxus*, flexible at pleaſure. *Debilis* (weak) and *flaccidus* (flagging) are almoſt ſynonymous.

363 Rigid, not enduring to be bent.

364 Articulated, jointed or knotted.

365 *Enodis*, without joints or knots.

366 *Præmorſus*, forebitten, having the top as it were bitten off.

367 Radicant, puſhing down roots.

368 Squamoſus, ſquamis adſperſus.

369 Proliferi flores, flore intra alium florem enaſcente.

370 Imbricatæ partes, quoad dimidiam partem invicem tectæ.

371 Squarroſus, dicitur de apice et laciniis, quum è plano promineant.

372 Faſtigiatus, quum trunci, rami, vel pedunculi, ad eandem altitudinem aſſurgant.

373 Reſupinatus, quum aliqua pars penitus invertatur.

374 Lacerus, dicitur de margine variè diviſo ſegmentis difformibus.

375 Laciniatus, dicitur de ſinubus diſci, variè et indeterminatè in partes ſecti.

368 Squamous, covered with ſcales.

369 Proliferous flowers, having one flower riſing within another.

370 Imbricated parts, one overlapping another like tiles or ſlates.

371 Squarroſe, rough or ſcurfy, applied to the tops or irregular ſegments of leaves, &c. when they ſtand out on all ſides.

372 Faſtigiated, trunks, branches, or peduncles riſing all to the like height.

373 Reſupinated, turned upſide down.

374 Lacerated, a term applied to the edges of flowers or leaves when divided irregularly as if they were torn.

375 Laciniated, divided into parts or ſegments in an indeterminate manner.

CLXXVIII.

From this view of the Botanical Terms, every plant for the purpoſes of claſſification is to be regarded as conſiſting of root, trunk, leaves, props, fructification, and habit.

CLXXIX.

The root conſiſts of two parts, the caudex and radicula, both of which are farther diſcriminated by a variety of circumſtances, as noticed.

1. The caudex, the body or knob, from which the trunk and branches aſcend, is different in different plants, being either ſolid, bulbous, or tuberous.

2. The radicle, the ſpongy or fibrous part of the root, deſcends from the caudex, and is the ſource of nouriſhment, as already noticed.

CLXXX.

The trunk, or production from the caudex, is the ſeat of the leaves, flowers, and fruit, and is either herbaceous, ſhrubby, or arboreſcent, and is divided into four kinds, under the names of,

1. A caulis, ſtalk, or ſtem, as applied to trees, ſhrubs, and herbs; and, if dividing, it is termed a compound one; if not, a ſimple one.

2. A culmus, ſtraw, or houlm, as forming the trunk of graſſes, elevating both leaves and fructification, varying in its exact appearance, and form, being pointed, round, angular, &c.

3. A ſcapus or ſtalk immediately from the root, terminated by the flowers.

4. A ſtapes or ſlender trunk, ſuch as the ſtalk of muſhroons, or even others of a more ſlender kind.

CLXXXI.

The leaves are the production of the expanded veſſels of the ſtalk, forming a net-like ramification, and covered by a continuation of the epidermis of the plant. They are either ſimple or compound, and are further marked by a number of occaſional diſtinctions in their figure, ſituation, inſertion, number, diviſions, &c.; though a ſingle leaf is one that either adheres ſingly to a branch, or terminates by a ſimple expanſion, while a compound one has ſeveral ſeparate ſimple expanſions, and the place of the attachment of leaves is termed their determination. This is likewiſe diſtinguiſhed by various additional circumſtances.

CLXXXII.

The props are a part of the plant of conſiderable variety for its ſtrength, ſupport, and defence; and alſo as ſerving the purpoſe of a ſecretion. They are divided into

1. A petiolus, or foot-ſtalk.
2. A pedunculus, or ſupport of a flower.
3. A ſtipula, huſk, or ſmall leaf on each ſide the foot-ſtalk baſe.
4. A cirrhus, claſper, or tendril, in the form of a ſpiral ſtring or fibre.

5. The pubes, or ſuch parts as ſerve for defence and ſecretion under the form of hair, down, wool, beard, briſtles, glands, &c.

6. The arma, or vegetable means of defence, as thorns, prickles, &c.

7. The bracteæ, or floral leaves, compared to thin plates of metal.

CLXXXIII.

The fructification, or mode of bearing fruit, conſiſts of the parts formerly noticed, viz.

1. The calyx, or termination of the outer bark, termed the cup, intended to incloſe and ſupport the other parts of the fructification. Its ſeat is the receptacle. It varies in its figure, number, diviſion, and ſhape of its leaves or ſegments, and the following names are applied to it according to circumſtances.

2. A perianthium (or flower-guard) when ſurrounding the ſeat of the fructification; a common perianthium, when connected with ſeveral flowerets; a proper one, when only with one. There is alſo the perianthium of the flower, and the perianthium of the fruit.

3. Involucrum, when ſituated at the foot of an umbel at a diſtance from the flower, below the common receptacle. It is either univerſal or partial.

4. An amentum, a thong or catkin, when it is

compoſed of a great number of pulpy ſcales diſpoſed on a ſlender axis or common receptacle.

5. A ſpatha or ſheath, when it is a ſort of calyx growing from the ſtalk.

6. A gluma or huſk, as in corn and graſſes, conſiſting of one or more valves folding over each other like ſcales.

7. A calyptra or veil, the calyx to moſſes, placed over the antheræ of the ſtamina, and reſembling a monk's hood.

8. A valva, or membranaceous infolding of the ſtalk or pillar, as in fungi.

The calyx is ſometimes diſtinguiſhed with difficulty from the bracteæ or floral leaves.

CLXXXIV.

The corolla, or wreath, conſiſts of the inner bark of the plant in the form of variouſly coloured leaves. Its ſituation differs, being ſometimes in the receptacle, ſometimes in the calyx; while the latter forms the defence of the outer part, the corolla does the ſame to the inner part, incloſed by it. The leaves of the corolla are termed petals, by the different circumſtances of which it is particularly diſtinguiſhed. When it includes the germen, it is underſtood to be below; and above, when it is placed in the reverſe ſituation, or above the germen. The duration of this part differs alſo in different plants. In ſome it remains till the ripening of the fruit, in others it decays with the opening of the flower, in others it falls off with the ſtamina and other floral parts, and in ſome it gradually withers.

CLXXXVI.

Connected with this part is the petalous appendage termed the nectarium, in which the honey of the plant exiſts. This part diſplays much variety in its appearance, and has been divided into a number of kinds, as the calycine nectaria connected with the calyx, the corollaceous attached to the corolla, the ſtamineous, piſtillaceous, &c. The proper uſe of the nectarium is perhaps ſtill unknown; but it ſeems evidently eſſential to the fructification.

CLXXXVII.

The ſtamina, threads, or chives, the next fructiferous part, are the males of the flower, a production from the wood of the plant, and divided into the filament and antheræ.

CLXXXVIII.

The filament, or threaded part of the ſtamen, is the footſtalk by which the antheræ are elevated, and it is ſometimes jagged or divided, and is alſo diſtinguiſhed by its particular form or figure, by its proportion, and alſo by its ſituation.

CLXXXIX.

The anthera at the top or ſummit of the filament, or of the former part, contains the pollen or impregnating flour, which renders it a part of the firſt importance to the fructification, and it is either common to each filament, or one anthera is extended to ſeveral; while, in the other extreme, there are ſometimes two antheræ to one filament, &c. It is diſtinguiſhed, alſo, by the variety in its form or figure, by the number of its cells, and by the manner in which it is faſtened to the filament, which differs widely in different individuals.

CXC.

The piſtillum, or female part of the flower, proceeds from the pith of the plant. It forms an erect column in the centre of the flower under the ſtamina, and it is divided into three parts, the germen, the ſtile, and the ſtigma.

1. The bud or germen is the baſe of the piſtills, and ſupports the ſtile. It becomes at laſt a ſeed-veſſel, and is properly the rudiment of the pericarpium. It differs in ſhape, number, and ſituation, and is above or below the corolla, according to the attachment of the latter.

2. The ſtile, or part elevating the ſtigma from the germen, is alſo diſtinguiſhed by conſiderable variety, as from numbers, from diviſions, from proportions, and from ſituation. By this part is the influence of the ſtamina received and conveyed to the germen. It is generally temporary as the other parts of the flower, but in ſome individuals it is permanent. Where wanting, the ſtigma and germen adhere.

The ſtigma is properly the head or ſummit of the ſtile; and is either ſituated on the top or ſide, and moiſtened with a fluid to retain the pollen of the antheræ. Like the other parts, it differs in its numbers, in its diviſions, in its figure or ſhape, in its length, in its thickneſs, and in its duration.

CXCI.

The pericarpium, or mature germen, grown to a matrix or ſeed veſſel, is not preſent in all plants, but its place is often ſupplied by the other parts. It is ſituated at the receptacle of the flower, either above or below, and is thus diſtinguiſhed according to the difference of its ſtructure, into

1. A capſule, or little cheſt, ſucculent when green, and when ripe, appearing a dry huſky ſeed veſſel, opening alſo in various ways, and externally ſhewing a number of valves, and internally a number of cells.

2. A ſiliqua, or pod, which is a pericarpium of two valves, and is divided into a real ſiliqua, or long pod; and a ſilicula, or round pod.

3. A ligumen, or pulſe, which is likewiſe a two-valved pericarpium, with the ſeeds faſtened to ſhort receptacles.

4. A foliculus, or little bag, being a pericarpium of only one valve, and the ſeeds faſtened to a receptacle within the fruit.

5. A drupa, or ſucculent or pulpy pericar-

pium, having no valve or external opening, but containing within its ſubſtance a ſtone or nut.

6. A pomum, or apple, which is a ſucculent pulpy pericarpium, without a valve, and containing in its middle a membranous capſule, interſected by cavities containing the ſeeds.

7. A bacca, or berry, which is equally a pulpy pericarpium without valves, incloſing one or more ſeeds, without any membranous capſule or covering.

8. A ſtrobilus, or cone, which is a pericarpium formed of an amentum or ſeed-veſſel, formed by woody ſcales placed againſt each other in the ſhape of a cone, opening only at top, and fixed below to an axis or receptacle in the middle of the cone.

CXCII.

The laſt part of fructification is the ſeeds, which is the eſſence of the fruit, deciduous, and poſſeſſed of the rudiments of a new vegetable, vitalized by the effect of the pollen. This part differs, like the others, in number, ſhape, texture, appendage, &c. but it has been commonly diſtinguiſhed by certain general diviſions of

1. The corculum, or heart, which is the principle of the future plant, and conſiſts of two ſeparate parts, the plumula, or aſcending part, which becomes the ſtem; and the roſtellum, or deſcending part, which forms the root in the

ſhape of a ſmall beak placed without the lobes, but attached to the plumula.

2. The cottyledons, or thick porous ſide lobes, conſiſting of farinaceous matter, or the nouriſhment of the future vegetable, which are afterwards diſplayed in the form of ſeminal leaves.

3. The hilum, or eye, being the external mark or ſcar where it was formerly faſtened within the pericarpium.

4. The arillus, or external coat of the ſeed, which ſpontaneouſly falls off, and is ſaid to be ſometimes wanting.

5. The coronula, or little calyx, adhering to the top of the ſeed like a little crown, and aſſiſting it to diſperſe, fly, or be ſcattered. This part varies much in its form in different caſes.

Two other varieties of ſeeds occur, viz. nux, a nut or ſeed incloſed in a ſhell or hard woody ſubſtance, and the ſeed contained here is called a kernel. Propago, or moſs ſeed, conſiſting of a naked plumula, with the roſtellum inſerted into the calyx of the plant.

CXCIII.

The laſt part of the fructification is the receptaculum, or baſe which ſupports and connects the reſt, and varies in ſhape and ſurface. It is diſtinguiſhed into the proper receptacle, when it ſupports the parts of a ſingle fructification only. When the parts of the flower only are joined to it, it is termed the receptacle of the flower. When the ſeeds are faſtened to it, it is termed the receptacle of the ſeed. It forms a common receptacle, when again it ſupports or connects a head of flowers in common.

It is named alſo umbella, when applied to aggregate flowers, and cyma or a ſprout. It is named likewiſe rachis, when collecting the plants longitudinally into a ſpike or ſpadix, when the flower ſtalk is protruded from a ſpatha or calyx of that ſhape.

CXCIV.

Efloreſcence, or the mode by which flowers are joined to their ſeveral peduncles, whether common or partial, is an important part in botany, and flowers are accordingly either conſidered as complete or incomplete.

CXCV.

Complete flowers are either ſimple or aggregate; ſimple when every part of the fructification is confined to one flower only, aggregate when the flower conſiſts of many plants collected into one head by means of ſome part of the fructification common to them all. Thus from the different ſtructure, diſpoſition, and other circumſtances of the calyx or receptacle, being the only common part to them all, ſeven diviſions are formed;

1. Aggregate, or the formation of flowers, by the union of ſeveral leſſer ones on partial peduncles, having one common receptacle.

2. Compound aggregate, which conſiſts of ſeveral plants placed without partial peduncles, and farther diviſions of this term alſo take place.

3. Umbellate aggregate, which conſiſts of many plants placed on a receptacle on faſtigiate peduncles that are all produced from the ſame point.

4. Cymous aggregate, when ſeveral faſtigiate peduncles proceed from the ſame centre, and riſe to an equal height.

5. Amentaceous aggregate, which conſiſts of ſuch flowers as have a long common receptacle, along which are diſpoſed ſquamæ or ſcales.

6. Glumoſe aggregate, where ſuch flowers proceed from a common huſky calyx, as graſſes.

7. Spadiceous aggregate, where thoſe flowers have a common receptacle protruded from within a common calyx or ſpatha, along which are diſperſed ſeveral florets.

CXCVI.

To theſe aggregate modes of flowering, ſome others fall to be added, as farther diſcriminating the ſpecies;

1. The 1*ſt* is the verticillus, when the flowers are placed in whirls at each joint round the common ſtalk with ſhort partial peduncles.

2. The ſecond is the capitulum, or little head, when many flowers are collected into nearly a globular form or head on the ſummit of the common ſtalk.

3. Spica, or ſpike, when the flowers have no partial peduncles, but are arranged alternately round a common ſingle peduncle.

4. Corymbus, or cluſter, when the leſſer peduncles of the flowers proceed from different parts of the common peduncle or ſtalk, yet form a regular ſurface at the top.

5. Thyrſus, or ſtalk, when the lower peduncles which are longer horizontally, and the upper which are ſhorter, mount vertically.

6. Racemus, or bunch, when the flowers are placed in ſhort partial peduncles, proceeding as little lateral branches from and along the common peduncle.

7. Panicula, or tuft, when the flowers are diſperſed on peduncles variouſly ſubdivided, or when it forms a ſort of branching ſpike compoſed of ſmaller ones.

8. Axillaris, when flowers proceed from the angle formed by the leaf and the ſtem.

9. Terminalis, when flowers terminate the ſtalk or branch.

CXCVII.

To the diviſion of infloreſcence belongs alſo the conſideration of luxuriant flowers, which are to be conſidered as varieties and unnatural, and the luxuriance is confined to the corolla or calyx. It is divided into

1. Multiplicatus, when the petals of the corolla are ſo far multiplied as to exclude part of the

ſtamina, and it is farther termed according to the number of rows of petals.

2. Plenus, when the corolla is ſo much multiplied as to exclude all the ſtamina, which are thus changed into petals, and the roſtellum is choaked alſo.

3. Prolifer, when one flower grows out of another; and of this there are ſeveral ways in which it takes place, according to the nature of the flower.

CXCVIII.

Beſides luxuriance, mutilation alſo occurs as oppoſed to it, or the privation of certain parts of the flower, as of the greater part of the petals. This proceeds from the want of heat and other cauſes.

CXCIX.

With the efflereſcence are alſo connected the ſexes of flowers, and they are divided into male, female, hermaphodite, and neuter.

The firſt are ſuch flowers as poſſeſs ſtamina.

The ſecond are ſuch as have only piſtils.

The third are ſuch as have both parts in the ſame flower.

The fourth are ſuch as have neither of the parts perfect; and from theſe ſexes of the flowers the plants are alſo denominated; as

Male plants, or ſuch as bear ſtamina only.

Female plants, or ſuch as have only piſtils.

Hermaphrodite plants, ſuch as have both.

Androgenous, ſuch as have both in the ſame root.

Polygenous are ſuch as bear hermaphrodite flowers on the ſame or different roots.

CC.

Habit of plants conſiſts in the agreement of the ſame genus or natural order in a variety of circumſtances; as,

1. In their germination, or in the ſtructure and diſpoſition of their bulb.

2. In their vernation, or the complication of their leaves within the bud.

3. In their eſtivation, or the ſtate of the bud during ſummer.

4. In their tortion, or the twiſting and bending of their parts.

5. In their nuptials.

6. In their ſemination, or the ſhape and other circumſtances of the ſeed and pericarpium.

7. In their placentation, or the number and diſpoſition of the cotyledons.

8. In their variation, or color, ſize, pubeſcence, and age.

CCI.

The laſt part of the plant claiming particular notice is the hybernaculum, or winter lodgement, which defends the young ſhoot or embryo from external injuries; and is divided into,

1. A bulb or large bud produced under ground, and placed on the caudex of certain plants, being diſtinguiſhed into ſeveral ſorts, as ſquamous, ſolid, coated, and cauline.

2. A bud or gem, being the embryo plant, ſeated on the ſtem and branches, covered with ſcales. Of buds, three kinds are enumerated;

That containing only the flower,

That containing only the leaf, and

That containing both flowers and leaves.

Annual plants are only renewed from ſeeds, and buds are confined chiefly to the productions of the cold climates, being unneceſſary in the warmer regions.

CCII.

After this full detail of the different parts of the vegetable ſtructure, thoſe which in particular receive the ſexual appellations are the antheræ and ſtigmata.

1. The antheræ correſpond to the teſtes of the male animal, while the pollen performs the office of the ſemen. This fact is ſupported by a variety of conſiderations; for,

The antheræ precede the fruit, and in their maturity they throw out the pollen, which continues as long as the flower laſts, but decays with the perfection of the fruit.

The antheræ are ſo placed that their pollen may fall on the ſtigmata or female organ.

The antheræ and ſtigmata always flouriſh at the ſame time.

The ſame variety is obſervable in the antheræ, on diſſection, as in the ſeed-veſſels.

The removal of the antheræ before the expanſion of the flowers renders the fruit either abortive, or the ſeeds barren.

The figure of the pollen is equally varied, as that of the ſeeds.

2. That the ſtigmata, again, are the female organ, is ſupported by ſimilar obſervations;

No fruit ever comes to maturity without the aſſiſtance of the ſtigma, for the germen is only a temporary part, and the ſtile is often wanting. The ſtigma, then, is the part receiving the fecundating pollen, as appears from the ſtigmata being ſo ſituated that the pollen may fall upon them, from their correſponding in number to the cells of the pericarpium, from the ſtigmata decaying on the performance of this function, or on impregnation taking place, from their flouriſhing along with the antheræ, and from their removal having the ſame effect, as that of the antheræ, or the deſtruction of the fruit.

CCIII.

Sexual Functions of Vegetables.

From the ſexes of plants forming the foundation of their claſſification, the ſexual functions and parts connected with it claim particular attention, and the conſideration of theſe functions is a proper introduction to the Linnæan Arrangement.

The firſt circumſtance to be noticed in this view is the mellification of the piſtils, which conſiſts in the ſecretion of a melleous juice appearing at the period of puberty, and beſmearing the ſurface of the ſtigma. This melleous juice exhibits various appearances in different plants, and tranſudes from all parts of the piſtil, filling the whole ſurface of the ſtigma and the cavity of the ſtile. It conſiſts of a mucilaginous ſaccharine ſolution, and in many caſes of pure cryſtallized ſugar.

The preſence of this ſecretion is eſſentially neceſſary to the fecundity of the germen; and if dried ſo as to be in an unfavorable ſtate for the operation, then the germen is not fecundated by the male pollen; for by its viſcoſity it carries the pollen through the cavity of the ſtile to the germen, or vegetable ovarium.

From the male flowers in general no melleous ſecretion is produced, but merely a pollen to impregnate the female.

CCIV.

The Marriage of Plants.

The diſcharge, then, of the pollen from the anthera upon the ſtigma conſtitutes the marriage of plants; and at the age of puberty this is rendered conſpicuous, for the mature antheræ ſuddenly break when their pollen is diſcharged into the whole ambit or circle of the flower.

The ſtigmata at the ſame period ſwell with a viſcid melleous fluid which receives the diſcharged pollen. The antheræ, when the pollen is diſcharged, contract, become empty, and decay.

Thus the ſtigmata are firſt covered with the pollen, then gradually dry, and, like the antheræ and ſtamina, decay.

CCV.

The facts that ſupport this view of vegetable marriage are;

1. Flowers having only ſtamina never ſeminate.

2. Flowers having only piſtils never fecundate, unleſs the pollen is brought to them.

3. If in a tulip the antheræ be taken away, or the ſtigma covered during the diſcharge of the pollen, the ſeeds in the germen continue to increaſe; but when put into the ground, they do not vegetate, but remain ſterile.

4. Monſtrous flowers, the ſtamina of which form petals, bear ſterile ſeeds; but if ſome of the ſtamina remain unchanged, then a few ſeeds only become fruitful.

5. The bilabiated ſtigmata of plants, at the age of puberty, are ſeen to unfold themſelves, and to remain in this ſtate for ſome days for the pollen; and if the male be not preſent, ſo that the pollen has acceſs to them, they become marcid.

6. Plants with female flowers alone are never fruitful, unleſs in the vicinity of a male plant, that the pollen may be ſprinkled over it; as in the caſe of the celebrated palm-tree in the garden of the Royal Academy at Berlin, which flowered and bore fruit for thirty years; but the fruit never ripened, nor did the ſeeds, when planted, vegetate, (the plant being a female,) till fecundated by a branch from a male; which experiment was ſucceſſively repeated for two ſeaſons. Many other inſtances of the ſame kind are on record.

CCVI.

Fecundation is different in the manner of the operation, according to the ſituation of the ſtamina and piſtils of the plant.

In hermaphrodite flowers, the diſcharge of the pollen to the ſtigma is eaſy, from the parts of generation being in the ſame flowers.

In erect flowers, again, the ſtamina being for the moſt part very long, and the piſtils very ſhort, the exploded pollen eaſily ſettles upon the ſtigma.

In pendulous flowers, the piſtils are moſtly long, and the ſtamina very ſhort; thus the pollen diſcharged from the antheræ falls upon the piſtils.

In erect flowers with ſhort ſtamina and longer piſtils, the ſtile in fecundation curves itſelf downwards, and offers its ſtigma to the antheræ for the reception of the pollen; after the operation, the ſtile is erected.

In erect flowers, whoſe ſtamina are placed horizontally, the ſtamina ſo erect themſelves, that daily one or other of the antheræ copulate with the ſtigma, and, the exploſion of the pollen having taken place, the ſtamina again return into their natural horizontal ſituations.

In flowers of the claſs ſyngeneſia, the ſtigma paſſes through the tube coaleſced with the anthera; and the diſcharge of the pollen takes place in the paſſage.

In monœcious plants, whoſe ſtamina and piſtils are ſituated in different flowers of the ſame plant, and in diœcious plants, whoſe ſtamina and piſtils are placed in two ſeparate plants, the tranſlation of the pollen to the female flower is truſted to the winds and inſects.

Diœcious plants alſo flouriſh before the eruption of the leaves, leſt they ſhould drive away the pollen from the ſtigma of the flowers.

Aquatic hermaphrodite plants, at the time of fecundation, erect their flowers above the ſurface of the water, leſt the pollen of the anthera, and the melleous juice of the ſtigma, be waſhed away.

CCVII.

The celebration of the connubium in aquatic plants is moſt ſingular. At the period of puberty, the female plant erects its flowers above the ſurface of the water, while the male flowers, of their own accord, are broken from the maſculine plants, and ſwim on the ſurface of the water; the flowers thus open are driven by the winds to the female flowers, and then, but not before, diſcharge the pollen upon them. The impregnation of the flowers being finiſhed, the female impregnated flowers are withdrawn again to the bottom of the water.

In cryptogamia plants the propagation is not to be obſerved, but takes place in the parts of the fructification lying concealed in the leaves.

CCVIII.

The Fecundation of the Seed.

Thus the impregnation of the ſeeds concealed in the germen takes place by means of the pollen of the anthera acting upon them.

The unimpregnated ſeed in the germen contains a peculiar fluid; and each atom of the pollen is alſo furniſhed with a ſimilar prolific vapour.

When it is ſprinkled upon the ſtigma, it is there detained by its viſcous fluid; and, when chemically diſſolved, it gradually deſcends through the veſſels of the ſtile, impregnating the contained ſeeds with the principle of life.

To the fecundation of the ſeeds, it is only neceſſary that the pollen be ſpread over one piſtil, and not the whole; for by deſtroying the whole except one, fecundation of the ſeeds will take place; neither is it neceſſary that the pollen of all the antheræ ſhould be ſpread over the ſtigmata.

Thus nature has provided ſo prodigious a quantity of flowers, and alſo a number of piſtils, in order that the fecundation of the ſeed may never fail.

CCIX.

The Generation of an Hybride Plant.

A plant from an union of two different ſpecies of one genus, is called an hybride; and retains ſome peculiarities from both the parental ſpecies.

Thus if the nicotiana ruſtica, deprived of its ſtamina, has its piſtils ſprinkled with the pollen of the nicotiana paniculata, it produces ſeeds which afford a hybride ſpecies, neither reſembling the ruſtica nor the paniculata, but having ſome of the characters of both.

CCX.

Hybridation ſucceeds equally well with other plants. Experiments have aſcertained that this phenomenon only takes place between different ſpecies of the ſame genus, but not in different genera of plants. The ſeeds of an hybride plant increaſe like thoſe of another plant, but, when put into the ground, they do not propagate; hence from them no new ſpecies of plants can be produced.

CCXI.

From theſe facts it is of much importance that plants of a different ſpecies, which have the ſame period of floreſcence, ſhould be placed at a diftance from each other; for by the confuſion or mixture of the pollen, the ſeeds may be rendered unfit for further propagation of that particular kind.

Vegetable monſters may be generated as well as animal ones, the true cauſes of which are unknown.

CCXII.

The Parturition of Plants.

The ſpontaneous delapſe of the ſeed from the plant is termed vegetable parturition.

As ſoon as the ſeeds are perfected and matured, the pericarpia burſt, and they eſcape.

The peduncles of fruits, when the ſeeds are matured, become dry, that the fruit, by the circumſtances of its own weight, of the ſlighteſt agitation, or of the wind, may fall from the tree.

The very frequent vegetable abortions, both in the form of flowers and immature fruits, ſeem to be directed by the economy of the plant; for ſome fructiferous trees produce a ſtupendous quantity of flowers, the exceſs of which it is neceſſary to remove, or that many of them ſhould fall and be deſtroyed by the wind, cold, dryneſs, inſects, ſhowers, &c. before their advance to maturity, leſt the boughs of the tree be broken by their weight, or the tree too much exhauſted of its nutritious juices.

The number of ſeeds which ſome plants naturally yield is beyond all conception, to the extent of 3,000, 4,000, and even 30,000 and 40,000.

The ſeeds, thus matured, are ſpread on the ſurface of the earth, either by the elaſticity of their own capſules, when they fly of their own accord; or they faſten to other ſubſtances by a peculiar apparatus; or are ſwallowed and not digeſted, but depoſited with the excrement of the animal.

The ſeed, thus depoſited in the earth, evolves at the proper ſeaſon, when the ſtimuli neceſſary to vegetation are preſent, into its primordial parts; the nutritious juice is attracted from the earth by the abſorbing veſſels, and the pulp of the ſeed ſwells, ruptures, and gradually throws off its arillus.

The power of vegetation, thus excited to action, expands the ſeminal pulp into the cotyledons; they, like the placenta of animals, prepare a nutritious juice for the nutrition of the other parts.

Next, the ſame power ſhoots upwards into the plumule, which conſtitutes the ſtem, and downwards into the roſtel, which is prolonged, partly into the root and partly into the baſis of the ſtem, elevating the cotyledons without the earth.

Thus the developement of the plant, as formerly detailed, commences, and continues to proceed in the manner already pointed out.

CCXIII.

Having thus ſtated the manner of the fecundation of vegetables, according to the moſt approved (or Linnæan) opinion, which proceeds on the idea of a diſtinction of claſſes in the vegetable, as well as in the animal kingdom; in order to render this opinion ſtill clearer and more ſatisfactory, it will be proper to purſue the analogy between the vegetable and animal ſyſtem as the foundation on which it is raiſed.

CCXIV.

Analogy of Vegetables and Animals.

In all their leading principles, both of ſtructure and economy, we find the vegetable and animal agree.

CCXV.

General Principles of both.

Thus they are both compoſed of three eſſential parts, ſolids, fluids, and a vital principle.

Of theſe parts alſo, the barks and leaves of plants are to the vegetable what the hard and ſoft parts are to the animal.

Likewiſe the chyme, chyle, ſap, and the ſecreted juices of the plant, are to it what the chyme, chyle, blood, and the fluids ſeparated from it, are to the animal.

In both alſo, the vital principle is of the ſame nature, and ſeems to be governed by ſomewhat ſimilar laws.

Plants at the ſame time, like animals, are both oviparous and viviparous.

CCXVI.

Firſt Appearances of both.

In entering next into the more ſeparate parts of the vegetable and animal ſtructure, we find,

That the gluten in the cotyledon of the ſeed is to the vegetable the ſame as the gelatin in the egg is to the animal.

That the vaſcular ſtructure of the cotyledon of the ſeed anſwers the ſame end as that of the cotyledons and placentæ of animals.

That both the ſeed and egg unfold their reſpective productions by a developement of pre-exiſting parts.

That the root of the plant and the inteſtines of the animal perform to each the ſame office.

That the ſeed of the vegetable and the egg of animal likewiſe agree.

And that the bud in the vegetable is the fœtus in the animal.

Proceeding in the ſame analogy, the bark of a tree may be regarded to the bud what the uterus of the animal is to the fœtus.

And inoſculations of the veſſels of the bud with the trunk of the tree are ſimilar to thoſe of the placenta and cotyledons with the uterus of the animals.

The protruſion of the bud through the bark of the tree is the birth of the plant, and is vegetable labour, ſimilar to the expulſion of the fœtus from the uterus in the animal.

CCXVII.

Mode of the Nutrition of both.

In reſpect to the mode of nouriſhment, the analogy between the two kingdoms is ſtill farther confirmed, for both are nouriſhed by a ſimilar ſet of veſſels.

Thus the ſuccous vegetable veſſels are ſimilar to the blood-veſſels in the animal.

The vegetable leaves agree alſo with the lungs.

From the common maſs of fluids, both in vegetables and animals, or from the ſap and blood, proper or peculiar juices or ſecretions are ſeparated.

Thus the vegetable ſap and animal blood agree, and the motion of the vegetable ſap is ſimilar to the circulation of the animal blood.

CCXVIII.

Progreſs of the Growth in both.

In regard to the progreſs of growth, the individuals of both kingdoms are produced from preexiſting parts; and the growth of each depends on a ſimilar extenſion of their fibres, which, when attaining a certain preſcribed degree of ultimate ſize, ceaſes to increaſe. Thus in the ſeed or bud there is concealed every part of the plant, as in the ovum every part of the fœtus.

CCXIX.

Fecundation in both.

On the principle of fecundation a ſimilar analogy is not leſs readily diſcernible, for the ſubtile vapour of the pollen is to the vegetable what the ſpermatic aura is to the animal; while the male parts of the vegetable flower reſemble, in their office, the male parts of the animal.

In the ſame manner the veſſels of the filament of the plant, like thoſe of the teſtes of the animal, ſerve to prepare the prolific vapour; while the vegetable antheræ are compared to the veſiculæ ſeminales of the animal; and the piſtil is ſimilar in its effect to the animal uterus and ovarium; the germen is to the vegetable what the ovarium is to the animal.

Thus, in the bud, the pericarpium and uterus ſerve ſimilar purpoſes, and bring the embryo to perfection.

CCXX.

Death of both.

In concluſion, we find that the death of a plant is of a ſimilar nature to that of an animal, and that both are equally ſubject to this change; while their functions in life are equally dependent upon an irritable principle; and this, again, in both is dependent upon their vitality.

That the ceſſation of the action of the vital principle in both conſtitutes death, which renders them no longer ſubject to the laws of vital affinity; but, on the contrary, the laws of chemical affinity predominate, by which their organic ſtructure is loſt, while their elements become equally in both the ſource of new productions.

CCXXI.

Linnæan Arrangement.

With this knowledge of the Linnæan nomenclature, we are now prepared for entering on the arrangement of plants; and this arrangement has been formed into 24 claſſes. To underſtand the formation of theſe, it is to be remembered that the ſtamina of the flowers are the male parts of generation; that the piſtils are the female parts, and that the plants that contain both theſe parts are of the hermaphrodite kind. The annexed Table exhibits the mode of claſſification founded on this opinion.

CCXXII.

Claſſes.

Theſe twenty-four claſſes thus exhibited comprehend every known genus and ſpecies of plants. The firſt eleven claſſes are ſimple in their characters, which all depend on the number of the male parts.

Of the particular claſſes after this, the 11*th* includes ſuch plants as are furniſhed with any number of ſtamina from eleven to nineteen.

The 12*th* claſs furniſhes the fruits moſt in

CLAVIS CLASSIUM.

Plantæ proferunt Flores,

- Viſibiles cuique; qui ſunt vel
  - Hermaphroditi cum ſtaminibus & piſtillis in eodem flore.
    - Staminibus nullâ ſui parte inter ſe cognatis; quæ
      - proportionem longitudinis nullam accuratam inter ſe invicem habent.
        - 1 MONANDRIA, ſtamen unicum in flore hermaphrodito.
        - 2 DIANDRIA, ſtamina duo in flore hermaphrodito.
        - 3 TRIANDRIA, ſtamina tria in flore hermaphrodito.
        - 4 TETRANDIA, ſtamina quatuor in flore hermaphrodito.
        - 5 PENTANDRIA, ſtamina quinque in flore hermaphrodito.
        - 6 HEXANDRIA, ſtamina ſex æqualia, vel alterna breviora, in flore hermaphrodito.
        - 7 HEPTANDRIA, ſtamina ſeptem in flore hermaphrodito.
        - 8 OCTANDRIA, ſtamina octo in flore hermaphrodito.
        - 9 ENNEANDRIA, ſtamina novem in flore hermaphrodito.
        - 10 DECANDRIA, ſtamina decem in flore hermaphrodito.
        - 11 DODECANDRIA, ſtamina duodecim flore hermaphrodito.
        - 12 ICOSANDRIA, ſtamina duod. plura, calycis parieti interno, non receptac. inſidentia, in flore herm.
        - 13 POLYANDRIA, ſtamina duodecim plura, receptaculo adnata, in flore hermaphrodito.
      - Staminibus duobus reliquis brevioribus.
        - 14 DIDYNAMIA, ſtamina duo longiora.
        - 15 TETRADYNAMIA, ſtamina quatuor longiora.
    - Cohærentibus, vel inter ſe invicem aliquâ ſui parte, vel cum piſtillo.
      - 16 MONADELPHIA, ſtamina filamentis in unum corpus coalita.
      - 17 DIADELPHIA, ſtamina filamentis in duo corpora coalita.
      - 18 POLYADELPHIA, ſtamina filamentis in tria vel plura corpora coalita.
      - 19 SYNGENESIA, ſtamina antheris in cylindrum coalita.
      - 20 GYNANDRIA, ſtamina piſtillo, non receptaculo, inſidentia.
  - Maſculi & fœminei in eâdem ſpecie.
    - 21 MONŒTIA, flores maſculi & fœminei in eâdem plantâ.
    - 22 DIŒCIA, flores maſculi & fœminei in diſtinctâ plantâ.
    - 23 POLYGAMIA, flores hermaphroditi & maſculi vel fœminei in eâdem ſpecie.
- Oculis vix obvios.
  - 24 CRYPTOGAMIA, parvitate oculos noſtros ſubterfugiunt.

vel | vel | vel | vel

Ordines plerumque à fœminis ſeu piſtillis deſumuntur;
Monogynia, Digynia, Trigynia, &c. id eſt, piſtillum unicum, duo, tria, &c.
Numerus fœminarum deſumitur à baſi ſtyli; ſi ſtylus autem deficiat, à numero ſtigmatum calculus fit.

(*To face p.* 162,
Vol. IV.)

SCHEME *of the* SEXUAL SYSTEM, *Or* TABLE *of the* CLASSES.

Plants celebrate their Nuptials,

- Public, *i. e.* have viſible flowers:
  - *Monoclinia*, males and females in the ſame bed:—*i. e.* The flowers are all hermaphrodite, having ſtamina and piſtils in the ſame flower.
    - *Diffinitas*, the males or ſtamina unconnected with each other.
      - *Indifferentiſſimus*, the males or ſtamina having no determinate proportion betwixt each other as to length.
        - 1 MONANDRIA, *i. e.* one male or ſtamen in an hermaphrodite flower.
        - 2 DIANDRIA, — two males or ſtamina.
        - 3 TRIANDRIA, — three males.
        - 4 TETRANDRIA, — four males.
        - 5 PENTANDRIA, — five males.
        - 6 HEXANDRIA, — ſix males.
        - 7 HEPTANDRIA, — ſeven males.
        - 8 OCTANDRIA, — eight males.
        - 9 ENNEANDRIA, — nine males
        - 10 DECANDRIA, — ten males.
        - 11 DODECANDRIA,— eleven males.
        - 12 ICOSANDRIA, — twenty, or more males inſerted into the calyx, and not into the receptacle.
        - 13 POLYANDRIA, — all above twenty males inſerted into the receptacle.
      - *[illegible]*, two of the males or ſtamina uniformly ſhorter than the reſt.
        - 14 DIDYNAMIA, — four males, two of them uniformly ſhorter than the other two.
        - 15 TETRADYNAMIA, — ſix males, two of which are uniformly ſhorter than the other two.
    - *Affinitas*, the males or ſtamina either connected to each other, or to the piſtillum.
      - 16 MONADELPHIA, — the males or ſtamina united into one body by the filaments.
      - 17 DIADELPHIA, — the ſtamina united into two bodies or bundles by the filaments.
      - 18 POLYADELPHIA, — the ſtamina united into three or more bundles by the filaments.
      - 19 SYNGENESIA, — the ſtamina united in a cylindrical form by the antheræ.
      - 20 GYNANDRIA, — the ſtamina inſerted into the piſtillum.
  - *Diclinia*, males and females in ſeparate beds; *i. e.* plants that have male and female flowers in the ſame ſpecies.
    - 21 MONŒCIA, — male and female flowers in the ſame plant.
    - 22 DIŒCIA, — male flowers in one plant, and females in another, of the ſame ſpecies.
    - 23 POLYGAMIA, — male, female, and hermaphrodite flowers in the ſame ſpecies.
- Or *Clandeſtinely, i. e.* whoſe parts of fructification are inviſible.
  - 24 CRYPTOGAMIA, — the flowers inviſible, ſo that they cannot be ranked according to the parts of fructification.

either | either | either | either

eſteem; and, as the number of ſtamina is not limited; an attention muſt be paid to the other parts of the character of this claſs, to diſtinguiſh the individuals of it from the claſs Polyandria.

The 13*th* claſs has its fruits often of a poiſonous nature; which makes it neceſſary to diſtinguiſh it carefully from the 12*th* claſs.

The 14*th* claſs, though, like the 4*th*, it has the ſame number of ſtamina; yet two of theſe are uniformly much ſhorter than the other two, while each particular ſtamen belonging to the different parts ſtands directly oppoſite to one another.

The 15*th* claſs reſembles the 6*th* in the number of ſtamina; but here four of the ſtamina are uniformly longer than the other two, which laſt are always oppoſite to each other.

Between the other claſſes there is no danger of making miſtakes with any of the preceding ones.

CCXXIII.

Orders.

The orders, or 1*ſt* diviſion, of the claſſes in the firſt thirteen, are taken from the piſtils or female parts, as the claſſes themſelves are from the ſtamina; as monogynia, digynia, trigynia, &c. When the piſtils have no ſtalk or filament like the ſtamina, they are numbered by the ſtigmata, which, in this caſe, adhere to the capſule in the form of ſmall protuberances.

In the 14*th* claſs, the mode of forming the orders is different. It conſiſts of plants having their ſeeds incloſed in a capſule, or altogether uncovered. Hence they are divided into the naked ſeeded plants (gymnoſpermia); and the covered ones (angioſpermia).

The orders of the four next claſſes are taken from the number of their ſtamina, and therefore termed monadelphia, pentandria, decandria, &c.

The 19*th* claſs conſiſts of plants having a compound of ſmall flowers in one calyx; and is accordingly divided, from the variety in thoſe flowers, into polygamia, æqualis, ſpuria, &c.

The orders of the 21*ſt* claſs are taken from the number of ſtamina, and alſo from the names and characters peculiar to ſome of the other claſſes, as monœcia, triandria, &c.

The orders of the 23*d* are all taken from claſſical characters, as polygamia, monœcia, &c.

The 24*th* claſs is an irregular one, comprehending the four orders of filices, muſci, algæ, and fungi.

The genera, or ſubdiviſions of the claſſes and orders, are taken from the parts of fructification alone. All vegetables that agree in their parts of fructification, are to be put together under one genus; and all ſuch as differ, are to be divided. The characteriſtic mark of each genus is to be fixed from the number, figure, proportion, and ſituation of all the parts; and as there are few genera in which all the parts are conſtant in every one of the ſpecies, ſome ſingle circumſtance that is conſtant ſhould be fixed on as the eſſential character.

CCXXIV.

With theſe general remarks on the claſſes, orders, and genera, we enter upon the conſideration of the different medical articles in modern practice contained in each.

CCXXV.

In detailing them, the method adopted is a ſhort deſcription of the article, and its effects on the organs of taſte and ſmell; the principles of its virtues; the morbid ſtates to which it is applied; and the general forms of its exhibition.

CCXXVI.

CLASS. I. MONANDRIA.

The firſt claſs, or Monandria, conſiſts of ſuch plants as bear hermaphrodite flowers, furniſhed with but one ſtamen, and conſiſts of two orders.

CCXXVII.

1. Monogynia, comprehending ſuch plants as have but one ſtile; the individuals of which at preſent employed in medicine are;

CCXXVIII.

Scitamineæ inferæ Tractu loculari infero.

Amomum.

Corolla 3-partita; labio ovato

Zinziber, a perennial plant from the Eaſt Indies, the root of which is only uſed, and diſtinguiſhed into the brown and white kind, conveying an acrid aromatic hot impreſſion, with an agreeable ſubfragrant ſmell.

Its qualities reſide in a volatile oil, and a ſmall proportion of the reſinous principle.

In its nature it is warming, ſtomachic, and ſialogue.

In practice it is employed againſt dyſpepſia, flatulence of the primæ viæ, with or without diarrhæa; externally, in relaxation of parts of the mouth, particularly the uvula.

It is uſed in four forms of powder, candy, ſyrup, and tincture. The doſe of the firſt, from 5 gr. to 30; of the ſecond, from 1 ſcruple to half a ſcruple; of the third, from half a dram to half an ounce, and of the third from 1 to 2 drams.

CCXXIX.

Cardamomum.

This plant, the ſeeds of which are employed, is the product of the Eaſt Indies. The leſſer cardamom is preferred, and the ſeeds convey an acrid hot aromatic taſte, with an agreeable fragrant odor.

Their virtues reſide in a volatile oil, and they prove warming and ſtimulant, but with leſs tendency to heat than the former article.

In practice, they are preſcribed in dyſpepſia, in flatulence, and in chloroſis from a phlegmatic cauſe.

They are exhibited in the form of powder and tincture; from 10 to 30 grs. of the former, and from one to two drams of the latter.

CCXXX.

Granum Paradiſi.

This perennial plant, brought from Guinea and Madagaſcar, has its ſeeds only employed, which are contained in its fig-like fruit. They poſſeſs a hot pungent taſte like pepper, with a more aromatic flavor than the former.

Their virtues reſide in a reſinous principle more than in a volatile oil.

They are employed in the ſame morbid ſituations as the former.

They are exhibited alſo more in powder than in any other form.

CCXXXI.

Coſtus Arabicus.

Cor. ringens; labio 3-fido; media emarginata.

The root and bark of this tree, the product of the Eaſt and Weſt Indies, poſſeſſes a bitter aromatic taſte, with a fragrant odor, which even impregnates the urine with a violent ſmell.

Its qualities reſide in a bitter extract and volatile oil.

It is ſtimulant, warming, and emmenagogue.

It is uſed in all morbid caſes where a permanent ſtimulant and tonic is required.

It is exhibited in powder or infuſion; in the former, in a doſe of 1 ſcruple; in the latter, in 1 ſcruple to 1 lb. of fluid.

CCXXXII.

Maranta Galanga (Galangal).

Cor. 5-partita, ringens; labio 2-partito magno.

This is the root of an Eaſt India tree, and chiefly brought from China in ſmall pieces. It conveys a bitteriſh hot biting taſte like pepper, with an aromatic ſmell.

The principle of its action is a reſin more than an eſſential oil.

It is ſtimulant, califacient, ſtomachic, and emmenagogue. In its recent ſtate it is an errhine.

It is employed in dyſpepſia, in lingual palſy, in flatulent cholic, and in lochial pains; as alſo in ſea-ſickneſs, hiccup, and vertigo; externally, it is an application to herpes.

It is exhibited in powder from 10 to 15 grs.; and is alſo uſed in tincture.

CCXXXIII.

Curcuma Longa (Turmeric).

Cor. 4-partita; labio ovato. Stam. 4 ſterilia.

This is an Eaſt India root, of a bitter and ſomewhat aromatic taſte, tinges even the urine of a ſaffron colour, and is of an agreeable weak ſmell.

Its qualities reſide in an extractive principle, with a ſmall portion of volatile oil.

Its virtues are emmenagogue, diuretic, and deobſtruent. It is alſo a ſtrong die.

It is employed in intermittent fevers, in abdominal obeſity, jaundice, and cutaneous diſeaſes.

It is exhibited in the form of powder from 2 ſcruples to a dram; and in infuſion, from 2 drams to 1 lb. of fluid.

CCXXXIV.

Kæmferia Rotunda, (Zedoary).

Cor. 6-partita; labio 2-partito magno.

The root of this plant, which only is uſed, is brought from the Eaſt Indies. It conveys to the taſte a warm bitteriſh aromatic impreſſion, with an agreeable fragrant ſmell.

Its principle reſides in a volatile oil.

Its virtues are ſtimulant, caleſacient, ſtomachic, and anthelminthic.

It is employed in dyſpepſia, in pyroſis, in intermittent fevers, in diſeaſes from relaxation or atony, and in worms.

It is exhibited in powder in doſes of 1 ſcruple, and alſo in water, ſpirit, and tincture.

The medical articles of this claſs belong all to this firſt order, and none to the ſecond, or *Digynia*, which comprehends ſuch plants as have two ſtiles.

CCXXXV.

Class II. Diandria.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers furniſhed with two ſtāmina; and it is divided into three orders:

CCXXXVI.

1. Monogynia, comprehending ſuch plants as have but one ſtile, the medical articles of which are;

CCXXXVII.

Flores Inferi, Monopetali, regulares.

Jaſminum Officinale (*Common White Jaſſmine*).

Cor. 5-fida. Bacca dicocco.

The flowers of this tree are the part uſed, which poſſeſs a highly fragrant odor.

Their qualities are narcotic and ſedative.

They are not exhibited in any morbid ſtate. A fragrant oil is prepared from them by infuſion.

CCXXXVIII.

Olea Europæa (*Common European Olive*).

Cor. 4-fida. Drupa.

The fruit of this tree, which grows in the South of France, Spain, Portugal, &c. is the part uſed. This fruit has an acrid bitter taſte, but affords the expreſſed oil, which has no particular taſte or ſmell.

Its quality lies in its oleous nature; and it is employed as an emollient lubricating fluid, both externally and internally, in dyſentery, teneſmus, cough, ſtrangury, inflammation of the bowels, bites, &c. Of late it has been recommended as of uſe in the plague, applied warm by external friction to the whole ſurface till a ſweat is produced.

CCXXXIX.

Fl. Inferi, Monopetali, irregularis Fructûs, capſulares.

Veronica Officinalis (Officinal Speedwell).

Cor. 4-partito limbo; lacinia inferiore anguſtiore.

This plant, the production of dry woody places, poſſeſſes a bitter and ſomewhat ſtyptic taſte.

Its virtues are thoſe of a mild aſtringent and expectorant.

It is employed in cough, conſumption, pituitous affections of the breaſt, and in vitiated habits.

Its forms are thoſe of powder or decoction.

CCXL.

Buccabunga (Brocklime Speedwell).

This perennial plant is uſed in its recent ſtate. It imparts a ſomewhat inſipid inodorous taſte. It is exhibited at times in the ſcurvy.

CCXLI.

Gratiola Officinalis (Hedge Hyſop).

Cor. 4-fida, irregularis. Stam. 4; 2 ſterilia.

This is a ſmall perennial plant in moiſt grounds, the leaves of which poſſeſs an intenſely bitter nauſeous taſte, with a ſimilar ſmell.

Its qualities reſide in an extractive principle.

Its properties are emetic, cathartic, and anthelmintic.

It is employed in madneſs, aſcitic dropſy, worms, lues, and phagedenic ulcers.

It is exhibited in powder from 10 to 15 grs. twice or thrice a day, and in infuſion from 3 drams to 1 lb. of fluid.

CCXLII.

Flores Inferi, Monopetali, irregularis Fructûs, gymnoſpermi.

Verbena Officinalis (Officinal Vervain).

Cor. ſubæqualis. Cal. laciniâ ſupremâ breviore.

This annual plant is inodorous, and ſomewhat inſipid to the taſte. In its qualities it is ſlightly aſtringent. It is applied in the ſcrofulous opththalmy of infants.

CCLXIII.

Monorda Fiſtuloſa (Purple Monorda).

Cor. ringens; galeâ lineari obvolvente genitalia.

This perennial plant is a native of Canada. It poſſeſſes an aromatic bitter taſte, with a fragrant odor. Its virtues are thoſe of a nervine, ſtomachic, and deobſtruent. It is employed in intermittent fevers in the form of infuſion.

CCXLIV.

Roſmarinus Officinalis (Common Roſemary).

Cor. ringens; galea falcata; ſtam. curva.

This plant, chiefly a native of Spain, Italy, and the South of France, poſſeſſes an aromatic warm taſte with a fragrant odor. The leaves and tops of the flowers are the parts uſed.

Its virtues reſide in a volatile oil.

It is ſtimulant, nervine, antiſpaſmodic, emmenagogue, ſtomachic, and externally diſcutient.

It is employed in dyſpepſia, chloroſis, hyſterics, tertian fever, and in nervous weakneſs. It is beſt in infuſion, though a diſtilled water, ſpirit, and oil, are prepared from it.

CCXLV.

Salvia (*Sage*).

Cor. ringens; filamenta tranſverſe pedicellata.

Salvia Hortenſis (*Garden Sage*).

This plant conveys a bitter (ſomewhat ſtyptic) taſte, with a ſtrong fragrant ſmell.

Its principle reſides in a volatile oil and an aſtringent extractive matter.

Its qualities are that of a nervine, ſtomachic, and emmenagogue; externally, it is diſcutient.

It is employed in the form of a ſpiritous infuſion in lacteal tumors of the breaſt, in a watery infuſion or gargle, in mucous cynanche and relaxation of the gums. It is uſed alſo in leucophlegmaſia.

CCXLVI.

Salvia Horminum (*Purple Red-topped Sage*).

This plant, the ſeeds of which are the part employed, poſſeſſes a bitteriſh mucilaginous taſte, with a fragrant ſmell.

It has been exhibited in ſome ſpecies of ophthalmia.

CCXLVII.

Salvia Sclarea (*Common Clary*).

This is a biennial plant growing in certain parts of Germany. It poſſeſſes a fragrant ſmell, with the ſame virtues as the common ſage, but in a higher degree. Hence it is exhibited in leucorrhœa, colic, and hyſteria.

CCXLVIII.

Collinſonia Canadenſis (*Nettle-leaved Collinſonia*).

Cor. ſubringens; labio capillari, multifido.

This is a perennial plant of North America, can growth the root of which only is uſed. It poſſeſſes an odorous ſmell, and has been employed in the lochial colic of women.

CCXLIX.

2. The 2*d* order of this claſs comprehends ſuch plants as have two ſtiles, but none of them claim attention for their medical qualities.

CCL.

3. Of the 3*d* order, or trigynia, conſiſting of thoſe plants that have three ſtiles, there is but one genus, viz.

CCLI.

Piper (*Pepper*).

Cal. 0. Cor. 0. Bacc. 1-ſparma.

Nigrum (*Black*).

This is the fruit of a plant growing in Java and Malabar; which, when ripe, and deprived of its ſkin, appears white. It impreſſes an acrid aromatic hot taſte.

Its virtue reſides in a reſinous principle, and the aromatic odor in an eſſential oil.

Its powers are ſtimulant, calefacient, and ſtomachic. It is uſed as an errhine, and againſt vermine.

The morbid ſtates to which it has been chiefly applied internally are, intermittent fevers, dyſpepſia, and hiccup; externally, in relaxation of the uvula, and againſt crab-lice.

CCLII.

Longum (*Long Pepper*).

This plant grows in the ſame ſituation as the former, and is hotter and ſtronger.

CCLIII.

Cubeba (*Cubebs*).

This is alſo the dried fruit of an Eaſt India plant. It has an acrid aromatic hot taſte.

Its virtues are ſtimulant, calefacient, carminative, and ſialogogue.

It is employed in vertigo and moroſe caſes.

CLIV.

CLASS III. TRIANDRIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers furniſhed with three ſtamina. The orders are three:

CCLV·

1. Monogynia, comprehending ſuch plants as have but one ſtile, the medical individuals of which are;

CCLVI.

Flores Superi.

Valeriana (*Valerian*).

Cor. 5-fida, baſi gibba. Sem. unicum.

Officinalis (*Officinal or Wild Valerian*).

This perennial plant, the root of which only is uſed, grows in moiſt grounds and woods. It poſſeſſes a ſtrong ſmell of an aromatic fœtid kind, with a bitteriſh, ſubacrid, and warm taſte.

Its virtue reſides in its volatile oil. It is powerfully antiſpaſmodic, narcotic, anthelminthic, emmenagogue, and diuretic.

It is employed againſt epilepſy, hyſteria, convulſion, hypochondriaſis, headach, incipient amauroſis, amenorrhœa, worms, hemoptyſis, and ulcers.

It is exhibited in the forms of powder in a doſe of 1 ſcruple to a ſcruple and a half, repeated in the day; in infuſion, in 2 ounces to 1 lb. of fluid; and in tincture, to half a dram for a doſe.

CCLVII.

Phu (*Garden Valerian*).

This differs only from the former in its weaker powers.

CCLVIII.

Celtica (*Celtic*).

This perennial plant grows on the higher mountains in the South of Europe. It poſſeſſes an acrid bitteriſh aromatic taſte, with a fragrant ſmell. Its virtues are thoſe of an antiſpaſmodic, diuretic, and anthelminthic. It is chiefly uſed in Turkey for the baths.

CCLIX.

Flores Inferi.

Tamarindus (*Tamarind*).

Cor. 3-petaloidea. Cal. 4-partitus
ligum. ſucculentum.

The fruit of this Indian tree is the part uſed. It poſſeſſes a ſtrong acid taſte, and its virtues reſide in an acid and ſaccharo-mucilaginous extract. Its property is that of proving laxative and refrigerant. It is exhibited in the form of decoction or whey in inflammatory and bilious fevers, in jaundice, and in dyſentery.

The doſes of theſe forms are from 2 ounces to 1lb. Of the pulp itſelf, as a laxative, 2 or 3 drams may be taken to an ounce or more.

CCLX.

Crocus (*Saffron*).

Cor. 6-petaloidea, erecta, patula,
ſtigmata convoluta colorata.

This plant, the ſtigmata of which are only uſed, is produced in the Southern parts of Europe as well as in our own gardens. It poſſeſſes a ſomewhat aromatic taſte, with a fragrant ſmell. Its properties are that of a ſedative, hipnotic, gentle ſtimulant, antiſpaſmodic, and emmenagogue.

It is exhibited in alenic amenorrhæa, in lochial pains, in baſtard peripneumony, and vomiting. It is alſo an external application in ophthalmia.

It is employed in the forms of powder from 10 to 30 grs.; in extract, in 10 to 15 grs.; and in tincture, in half a dram or more.

CCLXI.

Iris (*Iris*).

Cor. 6-petaloidea, pet. alternis reflexis, ſtigma petaloideum.

Florentina (*Florentine.*)

The roots of the florentine iris, the part of this perennial plant uſed, have a bitter acrid nauſeous taſte, which is leſſened by drying, with a fragrant violet ſmell. Their virtue reſides in an acrid corroſive matter.

The property of the root, in its recent ſtate, is to prove cathartic, diuretic, and expectorant. It is uſed alſo as an errhine.

CCLXII.

Iris Fœtida (*Fœtid Iris, or Goodwyn*).

The thick root of this plant has a bitter diſagreeable taſte, with a ſtinking ſmell. It proves deobſtruent, diuretic, narcotic, antiſpaſmodic, and cathartic. It is employed in hyſteria, ſcrofula, and dropſy. Its doſe is half an ounce.

CCLXIII.

Iris Germanica (*German Iris*).

The root of this ſpecies, when recent, poſſeſſes an acrid bitter nauſeous taſte.

Its quality reſides in a volatile acrid matter. It proves in its freſh ſtate gently emetic, diuretic, acts as an errhine, is expectorant, and emmenagogue.

CCLXIV.

Iris Pſeudacoſus (*Yellow Water-Flag*).

The root of this ſpecies is inodorous, but poſſeſſes an acrid and ſomewhat ſtyptic taſte. It is uſed in the form of the expreſſed juice as a diuretic and cathartic in the doſe of 1 dram, and the root again proves aſtringent. The former is employed in dropſy, the latter in ſcurvy.

CCLXV.

Gladiolus Communis (*Corn Flag*).

Cor. 6-petaloidea, pet. ſuperioribus, 3-convergentibus.

The root of this plant has been recommended as an aphrodiſiac.

CCLXVI.

Flores Graminei valvales Glumæ Calycinæ.

Cyperus (*Cypreſs*).

Cor. nulla, calc. paleis diſtichis; ſem. nudum.

Longus (*Long*).

The root of this tree poſſeſſes a pleaſing aromatic warm taſte, with a fragrant ſmell. It proves diuretic and emmenagogue, and has been uſed in ulcers of the bladder, womb, and mouth.

CCLXVII.

Rotundus (*Round*).

This ſpecies agrees with the former, but its powers are weaker.

CCLVIII.

2. Digynia, which comprehends ſuch plants as have two ſtiles, the medical articles of which are:

CCLXIX.

Flores Uniflori Vagi.

Saccharum Officinarum (*Sugar Cane*).

Cal. lanugine, extus veſtitus.

This perennial plant, the expreſſed juice of which is inſpiſſated and cryſtallized, grows both in the Eaſt and Weſt Indies, and in Egypt. It poſſeſſes an agreeable ſweet ſaline taſte. Its qualities are ſtimulant, antiſeptic, and nutrient.

It is exhibited in hoarſeneſs and cough. Externally, it is employed in powder againſt ſpecks of the eye.

It is prepared in the form of ſimple ſyrup in the diſtilled ſpirit named rum, in the oxalic acid, and it is a univerſal ingredient in all conſerves and ſyrups.

CCLXX.

Flores Multiflori Vagi.

Avena Sativa (*Oats*).

Cal. 2-valvis, cor. oblonga valvis, dorſo ariſta contorto.

The decorticated ſeeds and flour of this plant is an article of great uſe in diet. It is of an inſipid farinaceous nature. Its qualities are demulcent, emollient, and highly nutrient. It is uſed in the form of decoction and cataplaſm.

CCLXXI.

Dactylis Glomerata Spicata receptaculo ſubulato.

Secale Cereale (*Rye*).

Cal. biflorus.

The flour of the ſeeds makes a uſeful bread, and in a ſtate of fermentation it is employed in ſinapiſms.

CCLXXII.

Hordium Diſtichon (*Barley*).

Involucr. hexaphyllum triflorum, flos. ſimplex.

The ſeeds of this grain are uſed in three ſtates, of barley, pearl barley, and malt. They are all mucilaginous and farinaceous, and poſſeſs a ſtimulant, emollient, and nouriſhing quality. The decoction of malt is employed in ſcurvy.

The three preparations of this grain are, beer, alcohol, and vinegar, or rather alegar.

CCLXXIII.

Triticum (*Wheat.*)

Cal. multiflorus.

Triticum Hybernum.

The ſeeds of this plant are uſed in three ſtates, of flour, ſtarch, and bran. It conſiſts of a farinaceous mucilaginous inſipid nature. It poſſeſſes an emollient nouriſhing quality, with a tendency to areeſcency. The flour is uſed in cataplaſms; the ſtarch in glyſters for dyſentery, teneſmus, and ſtrangury; and the decoction of the bran in cough; externally, in baths.

CCLXXIV.

Triticum Repens (Quick-Graſs).

The root of this perennial plant is the part uſed, which poſſeſſes a dulceſcent inodorous nature, and a diuretic, deobſtruent quality. It is employed in abdominal fullneſs, in intermittent fevers, and in jaundice. In the form of decoction or extract, 2 ounces are proper in the former, to 2 lb. of fluid.

CCLXXV.

CLASS. IV. TETRANDRIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers furniſhed with four ſtamina, the ſtamina being of equal lengths; a neceſſary diſtinction from the 14th claſs. The orders of this claſs are three:

CCLXXVI.

1. Monogynia comprehends ſuch plants of it as have but one ſtile, the medical articles of which are;

CCLXXVII.

Flores Monopetali dicocci Superi ſtellati.

Aſperula Odorata (Sweet-ſcented Woodroof).

Cor. tabuloſa, fructus ſubgloboſi.

This perennial plant grows in woods. When dried, it poſſeſſes a fragrant odor, which it communicates to its infuſion, the form in which it is employed, its operation being as a diuretic.

CCLXXVIII.

Galium (Ladies'-Bed-Straw).

Cor. plana, fructus ſubgloboſi.

Galium Verum (Yellow Ladies'-Bed-Straw).

This plant poſſeſſes a fragrant ſmell and aſtringent taſte. It has alſo the peculiar quality of coagulating milk. It is employed in epilepſy, bloody urine, and hyſteria.

CCLXXIX.

Galium Aparine (Gooſe-Graſs).

The expreſſed juice is the part of this plant employed. The plant itſelf poſſeſſes an aſtringent taſte. It is employed in ſcrofula and cutaneous diſeaſes.

Four ounces of the expreſſed juice are exhibited twice a day.

CCLXXX.

Rubia Tinctorum (Madder).

Cor. campanulata, fructus baccati.

The root of this plant is the part uſed, the virtue of which reſides in an aſtringent extract, red, and of a bitter ſweetiſh taſte.

Its quality is that of an aſtringent, tonic, and diuretic, diſplaying the peculiarity of reddening the urine and bones.

It is employed in baſtard peripneumony, pituitous diſeaſes of the lungs, and alſo in affections of the liver, in rickets, in abdominal fullneſs, in jaundice, and amenorrhæa.

It is exhibited in ſubſtance to the extent of half a dram ſeveral times a day; and in decoction, in the proportion of 1 ounce to 3 lbs. of fluid, uſing 1 lb. daily.

CCLXXXI.

Flores Monopetali, Monocarpi, Inferi.

Penæa Sarcocolla (*Sarcocolla*).

Cor. campanulata Cal. 2-phyllus, cap. 4-locularis, 4-valvis.

The concrete juice of this plant, brought from Ethiopia, is the part uſed.

Its taſte is bitter, accompanied with a dull kind of ſweetneſs, without any ſmell.

It is reckoned ſtimulant and cathartic, and has been chiefly celebrated as an external application for the agglutination of ulcers.

CCLXXXII.

Plantago (*Plaintain*).

Cor. refracta. Cal. 4-partitus, cap. 2-locularis, circumſciſſa.

Major (*Greater*).

Every part of this plant is uſed. It poſſeſſes an inſipid and ſomewhat ſtyptic taſte.

Its quality is ſomewhat aſtringent. It is employed in the tertian intermittent, and in external ulcerations.

CCLXXXIII.

Plantago Pſyllum (*Clammy Plaintain*).

This ſpecies poſſeſſes a mucilaginous quality, and is of an obtending demulcent nature. It is employed againſt hoarſeneſs and opthalmia.

CCLXXXIV.

Flores Monopetali Monocarpi Superi.

Sanguiſorba Officinalis (Common Burnet Saxifrage).

Cor plana. Cal. 2-pyllus, cap. 4-gona inter calycem et corollam.

The root of this plant is the part uſed. It poſſeſſes a ſtyptic taſte. Its quality is that of an aſtringent and tonic. It is employed in hemorrhage, particularly towards the end of dyſentery.

CCLXXXV.

Bankſica Abyſſinica.

The flowers of this plant are the part uſed. It is the product of Abyſſinia. Its virtues are thoſe of an anthelminthic. It is employed in infuſion againſt the aſcarides, a handful of the flowers being digeſted in four pints of beer for 12 hours before uſe.

CCLXXXVI.

Flores Incompleti Inferi.

Doryſtenica Controyerva (Controyerva).

Cal. receptac. planum carnoſum commune.

The root of this plant, the part uſed, poſſeſſes a peculiar aromatic ſmell, and ſomewhat aſtringent warm bitter taſte, with a light ſweetiſh kind of acrimony.

The virtues of this root are much extolled as an aſtringent, antiſeptic, ſudorific, ſtomachic, and ſtimulant.

It is employed in fevers and eruptive diſeaſes of an atonic nature, as alſo in dyſentery.

Its forms are, its powder from 10 grs. to 1 dram; and its tincture, from 1 to 2 drams.

CCLXXXVII.

Camphoroſma Monſpelienſis (*Hairy Camphoroſme*).

This plant poſſeſſes an aromatic quality. Its virtues are nervine, ſudorific, and reſolvent. It is employed againſt hyſteria, leucorrhæa, aſthma, chronic rheumatiſm, and coryza.

CCLXXXVIII.

Fl. Tetrapetali Superi.

Santolum Album (*Yellow Sanders*).

Cor. 4-petala calyci innata bacca, 1-ſperma.

The interior part of the wood of this Oriental tree, the part uſed, is of a pleaſant ſmell, with a bitteriſh aromatic taſte and an agreeable pungency.

The virtue of this wood reſides in a volatile oil and reſinous principle. It is ſtimulant and ſudorific, and employed againſt rheumatiſm.

CCLXXXIX.

Alchemilla Vulgaris (*Common Ladies Mouth.*

Cal. 8-fidus. Sem. 1. calyce incluſum.

The leaves and root of this plant, the parts uſed, diſcover to the taſte a moderate aſtringency.

Hence they have been recommended in female diſcharges, and in alvine fluxes of a paſſive nature.

CCXC.

2. Digynia, the 2*d* order of this claſs, comprehends ſuch plants as have two ſtiles.

CCXCI.

Curſuta Europæa.

Cor. 4-fida ovata. Cal. 4-fidus.
Capſ. 2-locularis circumſciſſa.

The quality of this production is that of an inodorous bitter ſubacrid plant, poſſeſſing a deobſtruent virtue, which has been accordingly tried in intermittent fever and abdominal fullneſs.

CCXCII.

3. Tetragynia, the 3*d* order, comprehends ſuch plants as have four ſtiles.

CCXCIII.

Ilex (*Holly*).

Cor. 1-petola. Cal. 4-dentatus
bacca, 4-ſperma.

Ilex Aquifolium (*Common Holly*).

The leaves of the holly are the part uſed. They poſſeſs a mucilaginous bitter ſtyptic taſte. Their virtue reſides in a bitter aſtringent principle. Their qualities are thoſe of an aſtringent tonic, and antiſeptic. They are chiefly exhibited in the form of decoction, from 1 ounce of the leaves to 1 lb. of fluid; and they are given in ſtiffneſs of joints after gout, in obſtinate intermittents, and in dyſpepſia.

CCXCIV.

Ilex Caſſine (Dahoon Holly).

The leaves of this tree are of a bitter and ſomewhat aromatic taſte. Their virtues are ſtomachic, ſtimulant, and expectorant; in their recent ſtate they prove even emetic.

CCXCV.

Class V. Pentandria.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers furniſhed with five ſtamina, and it is divided into ſix orders, the medical articles of each of which are:

CCXCVI.

1. Monogynia, which comprehends ſuch plants as have but one ſtile.

CCXCVII.

Flores Monopetali Inferi, Tetraſpermi, Aſperifolici.

Lithoſpermium Officinale (Officinal Cromwell).

Cor. fauce nuda infundib. Cal. 5-partitus.

This plant is inſipid and inodorous, and is even little uſed in medicine.

CCXCVIII.

Anchuſa (Alkanet).

Cor. fauce fornicat. infundib. tubo baſi priſmatico.

Anchuſa Officinalis (Officinal Bugloſs).

This plant is entirely of a mucilaginous nature.

CCXCIX.

Anchuſa Tinctoria (Dier's Bugloſs).

This plant is of a red colour, and therefore is more uſed as a colorant than as a medicine.

CCC.

Cynogloſſum Officinale (Officinal Hounds-tongue).

Cor. fauce fornicata infundib. Sem, depreſſa lateri affixa.

This biennial plant, which grows in highways and church-yards, has a ſtrong ſmell and a mucilaginous taſte. In its qualities it is ſomewhat narcotic, and employed againſt vermin.

CCCI.

Pulmonaria Officinalis (Common Lung-Wort).

Cor. fauce nuda infundib. Cal, priſmaticus.

This perennial plant, which grows in woods, has a ſaltiſh bitter mucilaginous taſte, but is little uſed for the complaints its name deſcribes.

CCCII.

Symphytum Officinale (Common Comfrey).

Cor. fauce dentata ventricoſa.

This perennial plant grows in moiſt grounds and church-yards. The root is the part uſed, which abounds in a mucilaginous principle, and poſſeſſes the quality of a demulcent and emollient. It is exhibited in the form of decoction in ſtrangury, dyſentery, gravel, ſpitting of blood, and hematuria.

CCCIII.

Fl. Monopetali inferi Monoſpermi.

Plumbago Europea (*European Lead-Wort*).

Sem. 1. Stam. valvis inſerta, cor. infundib. ſtigm. 5-fidum.

The root of this perennial plant, the part uſed, poſſeſſes an acrid burning taſte. Its virtue, therefore, reſides in an acrid principle. Its uſe is as a cauſtic in toothach.

CCCIV.

Flores Monopetali Inferi, Angioſpermi.

Cyclamen Europeum (*Common European Sow-Bread*).

Capſ. 1 locul. intus pulpoſa, cor. reflexa, ſtigm. acutum.

The root of this plant, when freſh, has an extremely acrid burning taſte, which it loſes by drying.

Its quality reſides in an acrid volatile principle.

It is employed as a draſtic, cathartic, emmenagogue, anthelminthic, and diſcutient. Externally, it is applied to ſchirrous and other tumors, and is likewiſe prepared in ointment. One dram internally is the doſe.

CCCV.

Menyanthes Trifoliata (*Common Marſh Trefoil*).

Capſ. 1 locularis, cor. villoſa, ſtig. 2-fidum.

The leaves of this plant, which grow wild in marſhy places, is the part uſed. It poſſeſſes an intenſely bitter, and a ſtyptic taſte. Its virtue reſides in an extractive principle. It is aſtringent, tonic, anthilmintic, diuritic, and deobſtruent. It has been employed in dyſpepſia, chloroſis, dropſy, abdominal fullneſs, jaundice, aſthma, chronic, rheumatiſm, atonic gout, intermittent fevers, ſcurvy, leproſy, herpes, and malignant ulcers. It is exhibited in the form of infuſion or extract; in the former, 1 ſcruple being allotted to 1 lb. of fluid, and 2 drams of the latter forming a doſe.

CCCVI.

Lyſimachia Numularia (*Creeping Looſe Stripe*).

Capſ. 1 locularis, cor. villoſa, ſtigm. obtuſum.

This perennial plant, which grows in ſhady moiſt places, poſſeſſes a ſlight acidity and acrimony to the taſte. Its quality is aſtringency, and it has been employed in leucorrhæa.

CCCVII.

Anagallis (*Red Pimpernell*).

Capſ. 1 locularis circumſciſſa, cor. rotata, ſtigma capitatum.

This inodorous herb, which ſhould be gathered before its flowers are unfolded, poſſeſſes an acrid nauſeous taſte. It is employed in epilepſy, melancholy, and jaundice. It is exhibited in the form of powder in 1 dram four times a day; in extract, from 2 to 3 grs.; and in infuſion, in the proportion of 2 grs. to the 1 lb. of fluid.

CCCVIII.

Spigelia (Worm-Graſs).

Capſ. 2 locularis didyma, cor. infundib. ſtig. 2-fidum.

Spigelia Anthelmia Annua (Annual Worm-Graſs).

This Weſt India plant poſſeſſes a fœtid taſte, and is of a narcotic anthelminthic quality. It is exhibited againſt worms.

CCCIX.

Spigelia Morilandica (Indian Pink).

This perennial American plant is more uſed than the former, and poſſeſſes the ſame qualities. It is given in powder to the extent of 10 grs.; in infuſion, in the proportion of 2 grs. to the 1 lb. of fluid; and in decoction, in half an ounce to the 1 lb.

CCCX.

Ophiorriza Mungos (Mungos).

Capſ 2 locularis, 2 partitus, cor. infundib ſtig. 2-fidum.

The root of this perennial plant, from the Eaſt Indies, poſſeſſes a ſaline and intenſely bitter taſte. Its qualities reſide in a bitter extractive principle. It is exhibited in mania and hydrophobia.

CCCXI.

Convolvulus (Bird Weed).

Capſ. 2 locul., 2 ſperma, cor. campanulata, ſtig. 2 fidum.

Convolvulus Jalappa (Jalap).

The root of this plant, the production of New

Spain, is the part of it uſed. It has both a nauſeous taſte and diſagreeable ſmell. Its quality reſides in an acrid reſinous principle. It is employed as a cathartic and anthelminthic, and is exhibited in powder from half a ſcruple to to 2grs.; reſin, in a few grains.; and alſo in tincture, in a ſcruple or more.

CCCXII.

Convolvulus Scammonia (*Scammony*).

The inſpiſſated juice of this perennial plant, chiefly procured by inciſion of the root, is the part uſed. It is the production of Aſiatic Turkey, and poſſeſſes an acrid bitter taſte, with a nauſeous ſmell. Its virtue reſides in an acrid milky juice and a reſinous gummy principle. It is a powerful cathartic, being of a draſtic nature. It is given in doſes from 5 to 20 grs.; and its reſin, mixed with liquorice powder, is termed diagridium.

CCCXIII.

Fl. Monopetali Superi.

Cinchona (*Bark*).

Caps. 2. locul. intus dehiſcens, cor. hirſuta, ſtigm. ſimplex.

Cinchona Officinalis (*Peruvian Bark*).

The tree affording this bark is the production of Peru, and of a mountainous ſituation. It poſſeſſes a ſtrongly bitter taſte, with an aſtringency. The principle of its action reſides in an aſtringent reſin and bitter mixed. It is a powerſul antiſeptic, tonic, aſtringent, and ſtomachic. It is uſed in a vaſt variety of morbid ſtates, as fevers of all kinds, particularly the intermittent, putrid, &c. in weakneſs, in ſpaſms, chincough, chronic diarrhæa, gangrene, phagedenic ulcers, chronic rheumatiſm, and other diſeaſes. It is exhibited internally, and uſed alſo externally. Internally, it is prepared in almoſt every form. In powder, the doſe is from 15 gr. to half a dram; in extract, from half a dram to 2 ſcruples; in infuſion or decoction, 1 ounce of the bark is the proportion to 1 lb. of fluid.

CCCXIV.

Cinchona Caribbea (*Weſt India Bark*).

This ſpecies, the product of Jamaica and St. Lucie, poſſeſſes a ſomewhat aſtringent taſte, with more bitter and leſs aroma than the former. Its qualities are aſtringent, tonic, and ſtomachic. It is employed in the ſame diſeaſes as the former.

CCCXV.

Cinchona Anguſtifolia.

This ſpecies is the growth of St. Domingo. Its taſte is alſo intenſely bitter, with little aroma. Its qualities are thoſe of a tonic and ſtomachic. It is employed in fevers of the intermittent and remittent kind, and in typhus.

CCCXVI.

Cinchona Corymbifera.

This ſpecies much reſembles the former. It poſſeſſes a ſimilar taſte, and is employed in the ſame diſeaſes.

CCCXVII.

Cinchona Floribunda.

This ſpecies is much the ſame as the St. Lucie bark, both in taſte, qualities, and uſe.

CCCXVIII.

Cinchona Montana.

This is the product of Martinique and Guadeloupe. It is ſo intenſely bitter as to prove both emetic and cathartic.

CCCXIX.

Cinchona Tecamez.

This ſpecies poſſeſſes an aromatic bitter taſte, with an aromatic ſmell. In other reſpects it reſembles the other kinds.

CCCXX.

Coffea Arabia (Coffee).

Bacca 2. ſperm. ſem. arillata. Cor. Hippocrat. ſtigm. 2 partitum

The ſeeds or berries of this Arabian and Weſt India tree, are much employed in a torrified ſtate, and poſſeſs a fragrant aromatic ſmell.

Its qualities are thoſe of a ſtimulant, calefacient, and carminative. It is uſed, in the crude ſtate, againſt cattarrh, rheumatiſm, and amenorrhæa; but the infuſion of the torrified ſeeds is moſt in repute, being exhibited, to procure ſleep, in heartburn, headach, coſtiveneſs, and abdominal obeſity; and, in a very ſtrong ſtate, as 1 ounce to 3 ounces of fluid, to relieve ſpaſmodic aſthma.

CCCXXI.

Pſychotria Emetica (*Ipecacuhan*).

Bacca 2. ſperm ſem ſubcata. Cor. infundib. ſtigm emarginatum

This perennial plant is the production of South America. The root, the part uſed, poſſeſſes a bitter ſlightly pungent taſte, with a nauſeous ſmell. Its virtue reſides in a reſinous principle, and it is chiefly employed as an emetic of mild and ſafe operation. It is exhibited in ſpaſmodic aſthma, in ſpaſms of various kinds, in the commencement of fevers to cut ſhort their progreſs, and in ſmall doſes in menorrhagia, hemoptyſis, dyſentery, diarrhæa, and chincough. The doſe, as an emetic, of the powder, is from 15 grs. to 1 ſcruple; and of the wine, from half an ounce to 1 ounce.

CCCXXII.

Lonicero (*Honeyſuckle*).

Bacc. 2 locul ſubrotunda, cor. unæqualis. Stigm. capitatum.

Lonicero Diervilla (*Yellow-Flowered Upright Honeyſuckle*).

The roots of this ſpecies, the production of Canada, poſſeſs a nauſeous taſte and ſmell. They are uſed in Canada in ſiphylis, gonorrhæa, and dyſuria.

CCCXXIII.

Lonicero Symphorecarpus (*Shrubby St. Peter's Wart*).

The roots of this ſpecies, produced in Carolina, are ſtyptic or ſlightly aſtringent, and employed in caſes of intermittent fever.

CCCXXIV.

Fl. Inferi Angioſpermi.

Verbaſcum Thapſus (*Great Broad-Leaved Mullein*).

Caps. 2 locularis, cor rotata, ſtigm. obtus, ſtam. declinata

This biennial plant, of which the leaves and flowers are the part uſed, poſſeſſes a ſomewhat bitteriſh taſte. It is of a mucilaginous, emollient, and demulcent nature; and employed in cough, and caſes of acrimony, and irritation, in the form of infuſion, having the proportion of 1 ounce of the plant to 1 lb. of fluid.

CCCXXV.

Datura Stramonium (*Common Thorn Apple*).

Caps. 2 locular., 4. valvis, cor. infundib. cal deciduus.

This annual plant, whoſe ſeed and leaves are uſed, poſſeſſes a nauſeous bitter taſte and poiſonous ſmell.

Its qualities are thoſe of a ſtrong narcotic poiſon, which reſides in an acrid principle, and this quality it diſplays in whatever manner applied, occaſioning alienation of the mind to enſue. It has been employed in melancholy, in childbed-madneſs, in epilepſy, in cancer, in tumors of the anus, &c. It is exhibited in the form of powder from half a gr. to 6 grs.; and alſo in the inſpiſſated juice.

The acetous and nitric acids are its antidotes.

CCCXXVI.

Hyoſcyamus (*Henbane*).

Capſ 2 locularis operculata, cor. infundib. ſtigm. capitatum.

Hyoſcyamus Albus (*White Henbane*).

The leaves and ſeeds of this poiſonous plant are the parts employed, Its qualities are thoſe of a narcotic poiſon, and it is chiefly exhibited in the form of extract in amauroſis and cataract.

CCCXXVII.

Hyoſcyamus Niger (*Black Henbane*).

This plant poſſeſſes a rank or poiſonous ſmell. Its freſh leaves are chiefly uſed. Being a ſtrong narcotic poiſon, it is ſedative, antiſpaſmodic, and deobſtruent. It is employed in palſy, ſwellings of the anus, active hemorrhages, in convulſion, epilepſy, and madneſs; and externally, in ſchirrus. It is commonly exhibited in the form of extract from half a gr. to 1 ſcruple, and alſo in the oil.

CCCXXVIII.

Nicotiana Tabaccum (*Tobacco*).

Capſ. 2 locularis, cor. infundib., ſtigm. emarginatum.

The dried leaves are the part of this annual plant in uſe. It poſſeſſes an acrid nauſeous taſte, and at the ſame time a ſimilar nauſeous ſmell. Its quality reſides in an acrid narcotic principle. It proves diuretic, emetic, draſtically cathartic, ſtimulant, errhine, vermifuge, deobſtruent, ſialogogue, narcotic. Internally, it is exhibited in the forms of tincture, wine, or extract, againſt dropſy, ſchirrus, jaundice, and catarrhal chronic affections. Externally, it is employed in the form of ſmoke in hernia and coſtiveneſs; and in the form of lotion in the itch, ozæna, and phimoſis.

CCCXXIX.

Atropa (*Atropa*).

Bacca 2 locularis ſtem. diſtantia incurvata.

Atropa Mandragora (*Mandrake*).

The acrid root of this perennial plant is the part uſed. Its virtue reſides in a narcotic principle. It is therefore ſedative and antiſpaſmodic. Internally, it is exhibited in epilepſy; externally, it is employed in ſchirrus, ſcrofula, and ſwelled teſticle.

CCCXXX.

Atropa Belladonna (*Deadly Nightſhade*).

The leaves and root of this perennial plant are the parts uſed. It poſſeſſes an acrid and ſlightly aſtringent taſte, with a rank ſmell. Its qualities are narcotic, antiſpaſmodic, and deobſtruent. It is employed in mania, melancholy, hydrophobia, jaundice, and dropſy. Externally, in ſchirrus, cancer, fiſtula, chronic rheumatiſm, and malignant ulcers. It is given in the form of powder or extract, beginning with a grain or leſs, and gradually increaſing the doſe till the tenſion and dryneſs of the throat or vertigo limit the quantity.

CCCXXXI.

Phyſolis Alkekengi (Winter Cherry).

Bacca 2 loc. calyce inflato antheræ approximatæ.

The fruit and ſeeds are the parts uſed here. The fruit poſſeſſes an agreeable acidity, while the rind is intenſely bitter. Its qualities are thoſe of a diuretic and eccoprotic; and it is employed in nephritis, dyſury, and dropſy.

CCCXXXII.

Solanum (Nightſhade).

Bacca 2 locularis antheræ bip. foratæ.

Solanum Dulcamara (Bitter Sweet).

The roots are the part uſed, which poſſeſs a bitter ſweet and nauſeous taſte, with a rank fœtid ſmell. Its qualities are thoſe of a diuretic, alterative, and deobſtruent. It is uſed in decoction againſt chronic rheumatiſm, cutaneous diſeaſes, amenorrhæa, jaundice, and ſiphylis. The proportions are half an ounce to 2 ounces of the roots to 3 lb. of fluid boiled down to 2 lb. conſuming from 1 to 2 lb. a day.

CCCXXXIII.

Solanum Nigrum (*Common Nightſhade*).

This annual plant poſſeſſes the ſame rank fœtid ſmell as the former. Its qualities reſide in a narcotic principle, and it proves, therefore, narcotic, diuretic, and deobſtruent. It is uſed for the ſame purpoſes as the ſomniferous poppy; and externally, in phlegmon, whitlow, ſchirrus, and ulceration. The doſe of the powder is from 1 to 6 grs.

CCCXXXIV.

Capſicum (*Indian Pepper*).

Bacca. 2 locul. exſucca antheræ conniventes.

Capſicum Annuum (*Cayenne Pepper*).

The fruit of this annual plant is of an acrid burning taſte, its active quality reſiding in a reſinous principle. Its virtues are thoſe of a ſtimulant, ſtomachic, and rubefacient. It is employed in dyſpepſia, arithitic cardialgia, caryza, and in intermittent fevers.

CCCXXXV.

Capſicum Baccatum (*Bird Pepper*).

This reſembles the former in its taſte, qualities, and uſes.

CCCXXXVI.

Strychnos.

Bacca 2 locul. corticoſa, ſtigm. capitatum.

Strychnos Nux Vomica (*Poiſon Nut*).

The wood and nuts of this Oriental tree poſſeſs an intenſely bitter taſte and rank ſmell. They are diuretic, emmenagogue, and anthelminthic. They are employed in intermittent fevers, in chronic dyſentery, cardialgia, amenorrhæa, and worms. The doſe of the powder is from 5 to 15 grs.

CCCXXXVII.

Strychnos Volubilis (*Jeſuit's Bean*).

The taſte of this nut is equally bitter as the former, and it poſſeſſes equally the qualities of a narcotic, diuretic, ſudorific, and anthelminthic. It is given in obſtinate intermittents, in amenorrhæa, in worms, in aſthma, and in chronic ſpaſm. The doſe of the powder is from 5 grs. to 1 ſcruple. The infuſion is alſo uſed in the ſame proportion. The antidote of this poiſon is the acetous acid.

CCCXXXVIII.

Cordia Myxa (*Smooth-Leaved Cordia*).

Bacc. 1 ſperm. nuc. 4 locul. ſtigm. dichotonum, calyx baccæ ticktum.

The fruit of this tree, the production of Egypt and India, is of a ſweet and mucilaginous nature. Its qualities are nutrient and lubricating. It is employed in hoarſeneſs, cough, and ſtrangury.

CCCXXXIX.

Fl. Pentopetali inferi.

Rhamnus (*Buck-Thorn*).

Bacca 3 locularis rotunda, cal. tubul. corollifer, ſquamæ oris, 5 convergentes.

Rhamnus Catharticus (*Purging Buck-Thorn*).

The inſpiſſated juice of the berries of this tree poſſeſſes a nauſeous bitter taſte and diſagreeable ſmell. Its qualities are cathartic and diuretic. Its decoction is uſed in dropſy, in cachexia, and ſyphylis, in the proportion of 2 drams of the berries to 1 lb. of fluid. The ſyrup of the expreſſed juice is the moſt common preparation.

CCCXL.

Rhamnus Frangula (*Black Alder*).

The inner bark is the part uſed, which poſſeſſes a ſtyptic bitter taſte. It is draſtically cathartic, diuretic, and anthelminthic. It is employed in dropſy, itch, worms, and ſwellings of the anus. The doſe is from half a dram to 2 drams.

CCCXLI.

Rhamnus Ziziphus (*Shining-Leaved Rhamnus*).

The berries of this tree, the production of the Southern parts of Europe, are uſed. They poſſeſs a ſweet mucilaginous quality. They are therefore lubricant and expectorant. They are employed in cough and ſtrangury. Their preparation or form is a ſyrup.

CCCXLII.

Ceanothus Americanus (*New Jerſey Tea*).

Bacco. 3 cocca. cal. tubul. corollifer
petalo fornicata.

The root of this ſhrub are the parts uſed. They are red, and poſſeſs an alterative virtue, being uſed externally in powder to ſiphylitic ulcers.

CCCXLIII.

Vitis (The Vine).

Bacca 5 ſperma, cor. ſæpe e marcido connata ſtilus nullus.

Vitis Vinifera (Vine bearing Wine).

The berries and leaves are the parts uſed. The former poſſeſs an agreeable ſweet acidulous taſte, the latter are ſomewhat ſtyptic. The fruit is nutrient, antiſeptic, and eccoprotic, and deobſtruent. The leaves are gently aſtringent. This production is employed in cough, ſtrangury, jaundice, abdominal obeſity, and conſumption. From the expreſſed juice prepared by fermentation is produced wine, which varies in its particular qualities according to the nature of the fruit or grape.

CCCXLIV.

Fl. Pentopetali ſuperi.

Lagœcia Cuminoides (Wild Cummin).

Sem. 2 nuda, cal. pennatu pertinat, petalo bicamin.

The ſeeds of this annual plant, the production of the Grecian iſlands, are the part uſed. They poſſeſs an aromatic taſte, and are ſtomachic and carminative.

CCCXLV.

Nerium Antidyſentereum (Coral-Leaved Roſebay).

Follic. 2 erecti cor. faci coronata.

The bark is the part uſed. It poſſeſſes a bitter taſte, is acrid and poiſonous when freſh, and has a milky juice. It is an anthelminthic, and is employed in obſtinate intermittents, in chronic dyſentery, in diarrhæa, and in toothach.

CCCXLVI.

Echites.

Follic. 2 recti, cor. infundib. fauce nuda. ſem. puppora.

This is the production of Surinam. The leaves and herb are uſed. It is employed chiefly in ſiphylis in decoction.

CCCXLVII.

Plumeria (*White Plumeria*).

Follic. 2 refracti, cor. infundib. ſem. alata.

This tree is the production of the Weſt Indies, and is uſed in decoction in ſiphylis.

CCCXLVIII.

Vinca Minor (*Small Periwinkle*).

Follic. 2 erecti, cor hypocrat. ſem. ſimplicia.

This perennial plant poſſeſſes a bitteriſh taſte. It has the peculiar effect of corrugating the ſcrotum in the form of fomentation. Its infuſion is employed in diſeaſes of the breaſt, and in cynanche in the form of gargle.

CCCXXIX.

Ribes.

Bacca polyſperma, cal. colliger ſtil. 2 fidus.

Ribes Rubrum (*Red Currant*).

The berry and juice, the parts uſed, poſſeſs a taſte intenſely acid. In their qualities they are refrigerant. They are employed in fevers and ſcurvy in the form of rob and ſyrup.

CCCL.

Ribes Nigrum (*Black Currant*).

The berries and leaves are the parts uſed. The former poſſeſs an acid ſtyptic taſte. The leaves are diuretic and ſudorific. They are employed in rheumatiſm, in mucous cynanche, and in dyſentery. The root, fruit, and ſyrup, are all uſed.

CCCLI.

Hedera Helix (*Common Ivy*).

Bacca 5 ſperma cal. ungens fructum ſtigma ſimplex.

The parts uſed are the leaves, fruit, and gum reſin. The leaves have a bitter ſtyptic nauſeous taſte. The fruit is bitter and acid, and the gum has a ſlight aromatic ſmell. The infuſion of the leaves is employed in infantile atrophy, rickets, œzena, and ulcers.

CCCLII.

2. Digynia, or ſuch plants as have two ſtiles, the medical articles of which are:

CCCLIII.

Flor. Monopetali inferi.

Aſclepias Vincetoxicum (*White and Yellow Swallow-wort*).

Follicul. 2 cor. reflexa nectariis 5 uniformibus unguiculatis.

This perennial plant poſſeſſes a bitter acrid aromatic taſte, with a penetrating ſmell. Its qualities are thoſe of a ſtimulant, diuretic, and emmenagogue. It is employed in dropſy, and reſembles valerian.

CCCLIV.

Gentiana (*Gentian*).

Caps. 1 loc. 2 valris cor. tubuloſa indeterminata.

Gentiana Lutea (*Yellow Gentian*).

The root is the part uſed, which poſſeſſes an intenſe and pure bitter taſte. Its qualities are ſtomachic, antiſeptic, and anthelminthic. It is employed in dyſpepſia, jaundice, intermittent fevers, dropſy, chloroſis, gout, end worms. It is exhibited in extract and infuſion, watery or vinous. The doſe is from a ſcruple to a dram.

CCCLV.

Gentiana Purpurea (*Purple Gentian*).

This ſpecies is the ſame as the former in its general qualities.

CCCLVI.

Gentiana Centaureum (*Leſſer Centaury*).

This ſpecies is alſo little different from the two former.

CCCLVII.

Fl. Incompleti.

Chenopodium (*Gooſe-Foot*).

Sem. 1 orbiculare, cal. 5-phyllus foliolis concavis.

Chenopodium Ambroiſoid (*Mexican Gooſe-Foot*).

The plants and ſeeds are the parts uſed. It has an acrid aromatic taſte, with a fragrant ſmell. Its qualities are nervine and ſtimulant; thoſe of the ſeeds, anthelmintic and carminative. They are employed in palſy, nervous weakneſs, dyſpepſia, flatulence, and worms. The form is either in infuſion or tincture.

CCCLVIII.

Chenopodium Anthelminthicum (*Shrubby Gooſe-Foot*).

This ſpecies poſſeſſes an aromatic and ſtrong fragrant ſmell. Its qualities are anthelminthic, and it is employed againſt the lumbrici.

CCCLIX.

Chenopodium Vulvaria (*Stinking Gooſe-Foot*).

This ſpecies has a fœtid goatiſh ſmell, is conſidered as an antiſpaſmodic, and uſed in hyſteria.

CCCLX.

Salſola.

Sem. 1 cochleatum tectum, cal. 5-phyllus.

It is from this plant the ſoda is produced. It is divided into three ſpecies, *Salſola Kali*, *Salſola Sativa*, and *Salſola Soda*.

CCCLXI.

Ulmus Campeſtris (*Elm-Tree*).

Bacca exſucca compreſſa, cal. 1-phyllus emarceſcens.

The inner bark, the part uſed, poſſeſſes a bitteriſh ſtyptic taſte. Its virtues are thoſe of a tonic, aſtringent, diuretic, and alterative. The decoction is employed in leproſy and other cutaneous diſeaſes, in phagedenic ulcers, gout and dropſy. The proportions are 1 or 2 ounces of the bark to 2 pounds of water boiled to one.

CCCLXII.

Fl. Pentapetali ſuperi diſpermi Umbellatæ.

A. Involucro univerſali partialique.

Eryngium (*Eryngo*).

Fl. capitati recept paleaceum.

The root of this perennial plant poſſeſſes a ſweetiſh and ſlightly aromatic taſte. Its virtues are diuretic and aphrodiſiac. It is employed in pulmonary conſumption in infuſion in the proportion of half an ounce to a pound of fluid, which is exhibited daily.

CCCLXIII.

Sanicula Europea (*Common Sanicle*).

Fl. ſubumbellata abortivi ſem muricatæ.

This perennial plant is inſipid and inodorous, but is ſaid to poſſeſs deobſtruent virtues.

CCCLXIV.

Daucus Carota (*Wild Carrot*).

Fl. radiati abortivi invol. pennatum. ſem. hiſpida.

The root, leaves, and ſeed, are all uſed. The root poſſeſſes a ſweet mucilaginous taſte, depending on a ſaccharine mucilaginous principle. The ſeeds have an aromatic bitteriſh taſte and fragrant ſmell. The virtues of the root are demulcent and antiſeptic; theſe of the ſeeds, ſtimulant and anthelminthic. Externally, the root is uſed in the form of cataplaſm to phagedenic, putrid, and herpetic ulcers, and to cancer. Its decoction is alſo applied in ſtrangury.

CCCLXV.

Conium (*Hemlock*).

Fl. floſc. fertil. pet. cordata. involuc. dimidiata, ſem. gibba coſtato ſulcata.

Conium Maculatum (*Common Hemlock*).

This biennial plant poſſeſſes an acrid nauſeous taſte and rank ſmell. Its virtue reſides in a narcotic acrid principle, and it proves therefore narcotic and diuretic. It is uſed externally in the form of powder and cataplaſm in ſchirrus, phagedenic ulceration, ſcrofula, and caries; and internally, in the ſame diſeaſes, and alſo in chincough, tenia, ſwelled teſticle, proſtate, &c. Its forms are the powder and extract, beginning with one grain, and gradually aſcending to a conſiderable quantity.

CCCLXVI.

Ferula.

Fl. floſc. fert. pet. cordata, ſem. plana.

Ferula Aſa Fœtida (*Aſa Fœtida*).

The gummy reſinous juice is the part uſed. It poſſeſſes an acrid aromatic nauſeous taſte, with a garlic or alleaceous ſmell. Its quality depends on a volatile oil and reſinous principle. It is ſtimulant, antiſpaſmodic, anthelmintic, carminative, emmenagogue, deobſtruent, and reſolvent. Hence it is employed both externally and internally in the form of pills, tincture, gliſter, and plaiſter againſt various diſeaſes, as hyſteria, convulſion, ſpaſmodic cardialgia, flatulent cholic, tympany, ſpaſmodic aſthma, chincough, worms, paronychia, bubo, and caries.

CCCLXVII.

Laſerpitium Siler (*Mountain Leſſer-wort*).

Flor. floſculoſi abortivi, pet. cordata, ſem. plana.

The ſeeds, the part uſed, poſſeſs an acrid aromatic taſte and fragrant ſmell. They are carminative and ſtomachic, and uſed in painful lochia.

CCCLXVIII.

Angelica.

Fl floſc. fert. pet. planiuſc. umbellulæ globoſæ.

Angelica Archangelica (*Garden Angelica*).

The root, leaves, and ſeed, are the parts uſed. The poſſeſs an acrid aromatic and warm taſte, with a fragrant ſmell. Their principle depends on a volatile oil. They are ſtimulant, ſialogue, carminative, and ſudorific. They are employed in dyſpepſia and flatulence.

CCCLXIX.

Angelica Sylveſtris (*Wild Angelica*).

The root poſſeſſes the ſame virtues as the former ſpecies, but its powers are weaker.

CCCLXX.

Sium.

Fl. floſc. fert. pet. cordata ſem. ſuborat. ſtriata.

Sium Ninſi.

The root of this perennial plant, the production of Japan, poſſeſſes a ſweetiſh bitter ſomewhat aromatic taſte. Its qualities are cordial and fattening. It is employed in anaphrodiſia, aſththemia, and maraſmus.

CCCLXXI.

Sium Nodiflorum (*Creeping Water Parſnip*).

The expreſſed juice is employed in diſeaſes of the ſkin, in the proportion of from 1 to 4 ounces every morning.

CCCLXXII.

Siſon Amomum (*Field Honey-wort*).

Fl. floſc. fert. pet. planiuſc. umbella depauperata.

The ſeeds of this plant, the part uſed, poſſeſs an agreeable aromatic bitter taſte. They are ſtimulant and carminative, and prove uſeful in flatulence and ſterility.

CCCLXXIII.

Bubon (*Parſley*).

Fl. floſc. fert. pet. pleniuſc. inv. 5-phyllum.

Bubon Macedonicum (*Macedonian Parſley*).

The ſeeds are the part uſed. They poſſeſs an aromatic ſweetiſh taſte. They prove carminative, diuretic, and emmenagogue. They are employed in ſiphylis.

CCCLXXIV.

Bubon Galbanum (*Galbanum, or long-leaved Bubon*).

The inſpiſſated juice of this perennial African production is the part uſed. It poſſeſſes a bitter acrid taſte, with an alleaceous penetrating ſmell. Its virtues are ſtimulant, antiſpaſmodic, emmenagogue, expectorant, and reſolvent. It is employed in hyſteria, aſthma, amenorrhea, and athenia. Externally, for the purpoſe of reſolving and maturating tumors. It is exhibited in the form of pills or emulſion from a ſcruple to a dram.

CCCLXXV.

Cuminum (*Cumine*).

Fl. floſc. fert. pet cordata umb.
4-fida invol ſataceis longiſſimus.

The ſeeds of this plant, the production of Egypt and the South of Europe, have an acrid aromatic taſte, and fragrant odor. They are ſtimulant and carminative, and are employed in flatulent cholic, tympany, and ſwellings of a cold nature.

CCCLXXVI.

B. *Involucris partialibus univerſali nullo.*

Philandrium.

Fl. floſc fertiles fr. coranti.

Phillandrium Aquaticum (*Water Phillandrium*).

The ſeeds of this biennial plant poſſeſs an acrid aromatic taſte and ſmell. They are flatulent and narcotic, and employed in dyſpepſia, in intermittents and hypochondriaſis, in ſcrofulous and atonic ulcers, and in pulmonary conſumption.

CCCLXXVII.

Cicuta.

Fl. floſc. fertibus pet paniuſcula.

Cicuta Viroſa (*Water Hemlock*).

This poiſonous plant poſſeſſes an acrid taſte and rank ſmell. It is a narcotic and reſolvent.

CCCLXXVIII.

Æthuſa (*Spignel*).

Fl. ſubradiat. fert. involucella demidiata.

Æthuſa Meum (*Common Spignel*).

The root of this perennial plant poſſeſſes an acrid aromatic warm taſte. It is ſtimulant and carmininitive, and employed in the tertian intermittent, aſthma, and leucorrhœa.

CCCLXXIX.

Coriandrum (*Coriander*).

Fl radiat. abortivi fr. ſubgloboſ.

Coriandrum Sativum (*Common Coriander*).

The ſeeds of this annual plant poſſeſs an aromatic taſte, but rather offenſive ſmell. They remarkably leſſen the diſagreeable taſte and ſmell of ſenna. They are hipnotic and carminative, and chiefly employed in infuſion with ſenna.

CCCLXXX.

Imperatoria (*Maſter-wort*).

Fl. floſc. fertiles, umb. expanſo plana.

Imperatoria Oſthuthium (*Common Maſter-wort*).

The root of this perennial plant poſſeſſes a bitter acrid aromatic warm taſte, with a fragrant ſmell. Its quality reſides in a volatile oil and reſinous principle. It is ſtimulant, carminative, emmenagogue, and ſialogogue. It is given in atonic amenorrhœa, in dyſpepſia, flatulent cholic, palſy, intermittents, ring-worm, and in ſterility. Its doſe is from 10 to 30 grains.

CCCLXXXI.

C. *Involucro nullo, nec univerſali, nec partialibus.*

Paſtinaca.

Fl. floſc. fertiles, ſem. depreſſo-plana.

Paſtinaca Opopanax (*Rough Parſnip*).

This concrete nauſeous gum has an acrid bitteriſh taſte, with a rank ſtrong ſmell. Its virtue reſides in a volatile oil and reſinous principle. It is nervine, eccoprotic, carminative, and emmenagogue. It is uſed in cough and aſthma.

CCCLXXXII.

Anethum (*Dill*).

Fl. floſc. fertiles, ſem. marginat, ſtriata.

Anethum Graveolus (*Garden Dill*).

This annual plant and its ſeeds are uſed. It poſſeſſes a ſomewhat aromatic taſte and diſagreeable ſmell. It is hipnotic, carminative, and lactiferous. It is exhibited in three forms, of a volatile oil from the ſeeds, a water, and ſpirit. The doſe of the oil is from 5 to 10 drops.

CCCLXXXIII.

Anethum Fæniculum (*Sweet Fennel*).

The ſeeds of this perennial plant are chiefly uſed. They have a ſweetiſh aromatic taſte, and diſagreeable ſmell. Their principle reſides in a volatile oil. They are carminative, lactiferous, and reſolvent. They are employed in dyſpepſia, flatulent cholic in infancy, want of milk, and in ophthalmy. The doſe of the powder is a ſcruple, and the proportion in the infuſion is two or three drams to 1 lb. of fluid.

CCCLXXXIV.

Carum (*Caraway*).

Fl. floſc. abortivi, ſem. gibba ſtriata.

Carum Carvi (*Common Caraway*).

The ſeeds of this perennial plant have an aromatic acrid warm taſte. Their virtue reſides in a volatile oil. They are ſtimulant, lactiferous, and reſolvent. The doſe of the powder is from a ſcruple to a dram, and the proportion of the decoction is 1 ounce to 1 lb. of water.

CCCLXXXV.

Pimpinella (Saxifrage).

Fl. floſc. fertiles, (umbellæ ante floreſcentiam nutantes,) pet. cordata.

Pimpinella Saxifraga (Small Burnet Saxifrage.)

The root of this perennial plant poſſeſſes an acrid warm taſte, with a goatiſh ſmell. Its virtue reſides in an acrid reſinous principle. It is ſtimulant, diuretic, emmenagogue, and reſolvent. It is employed in angina and hyſteria. Its forms are the powder and tincture.

CCCLXXXVI.

Pimpinella Aniſum (Aniſe).

The ſeeds of this annual Egyptian plant poſſeſs a ſweetiſh aromatic taſte, with a ſickly fragrant ſmell. Their virtue reſides in a mild volatile oil. They are ſtimulant, carminative, lactiferous, and reſolvent. They are employed in flatulence and rheumatiſm; in the form of powder, from a ſcruple to half a dram; in infuſion, from an ounce to a pound of fluid; and in oil, from ten drops to two drams.

CCCLXXXVII.

Apium.

Fl. floſc. fertiles, ſem. minuta ſtriata, pet. inflexa.

Apium Petroſelinum (Parſley).

The root, ſeeds, and plant, are all uſed. The former is diuretic and reſolvent, and employed to diſpel the milk, and root out vermin. It is uſed in jaundice, in dyſuria, in weaning, &c.

CCCLXXXVIII.

Apium Graveolens (*Sellery*).

The ſame parts are uſed here as in the former. They poſſeſs a ſweetiſh taſte, with a ſtrong or rank ſmell. Their virtue reſides probably in a volatile oil. They poſſeſs the ſame qualities as the former ſpecies.

CCCLXXXIX.

3. Trigynia, or ſuch plants of this claſs as have three ſtyles, the medical articles of which are:

CCCXC.

Fl. Superi.

Rhus.

Cor. 5-petala, bacca 1-ſperma.

Rhus Corinaria (*Elm-Leaved Sumach*).

The berry and ſeeds of this tree are uſed. Their virtue reſides in a moſt aſtringent acid principle. Their qualities are therefore of a ſtyptic nature, and they are employed in hæmorrhages and gonorrhœa.

CCCXCI.

Caſſine.

Cor. 5-petala, bacca 3-ſperma.

Caſſine Peragua (*Peraguay Tea*).

The leaves of this tree, the part uſed, have an intenſely bitter taſte. Hence they prove emetic, cathartic, diaphoretic, and expectorant. They are employed in diabetes, nephritic colic, and in chronic catarrhal affections of the lungs.

CCCXCII.

Sambucus.

Cor 5-fida, bacca 3-ſperma.

Sambucus Ebulus (*Dwarf Elder*).

Every part of this ſhrub is uſed. It poſſeſſes an acrid nauſeous bitter taſte, with a rank fœtid ſmell. It is draſtically cathartic, diuretic, emetic, and narcotic. The decoction of the bark and leaves is uſed in dropſy, itch, and leucorrhœa. Its doſe is two drams, and the juice of the berries an ounce.

CCCXCIII.

Sambucus Nigra (*Black Berried Elder*).

The fruit of this ſpecies is gratefully acid. The other parts reſemble the former ſpecies. The infuſion of the bark and tops is employed in dropſy and eriſipelas, the proportion being two drams, or half an ounce, to one pound of fluid.

CCCXCIV.

Tamarix (*Tamariſk*).

Cor. 5-petala, capſ. 1-locularis, ſem. pappoſa.

Tamarix Gallica (*French Tamariſk*).

The root, bark, and leaves, are all uſed. They poſſeſs a bitter ſtyptic taſte, and are aſtringent in their quality.

CCCXCV.

4. Tetragynia, or ſuch plants of this claſs as have four ſtiles, but of theſe there are none in medicine of importance.

CCCXCVI.

5. Pentagynia, or thoſe that have five ſtiles, the medical articles of which are:

CCCXCVII.

Linum (*Flax*).

Cor. 5-petala, capſ. 10-locularis, 2-ſpermæ.

Linum Uſitatiſſimum (*Common Flax*).

The ſeeds of this annual plant are the parts uſed. Its qualities are mucilaginous and oily. It is lubricating and emollient. It is employed in decoction or infuſion, in dyſury, nephritis, gonorrhæa, in the form of glyſter, in teneſmus, in cataplaſm, in cynanche, and in phlegmon. The proportion of the ſeeds in the decoction are an ounce to one pound of water. The expreſſed, or fixed oil, ſhould be prepared cold.

CCCXCVIII.

Linum Catharticum (*Purging Flax*).

This annual plant has a ſaltiſh bitter nauſeous taſte. Its virtue is cathartic, and it is employed in dropſy and nephritis. The proportion in infuſion is two drams to one pound of fluid.

CCCXCIX.

CLASS VI. HEXANDRIA.

This claſs is compoſed of ſuch plants as bear hermaphrodite flowers with ſix ſtamina. The flowers of this claſs may be known from thoſe of the 15*th* by this diſtinction, that the ſtamina are of equal length. The orders of this claſs are five.

CCCC.

1. The firſt, or monogynia, comprehends ſuch plants as have but one ſtile, and the medical articles of this order are:

CCCCI.

Bromelia.

Cor. 3-partita, cal. 3-partitus, bacca ſuperus.

Bromelia Ananas (*Queen Pipe Apple*).

The fruit and outer rind are uſed. It poſſeſſes a moſt agreeable ſweet acid taſte, with a little acrimony. It is highly cordial, and the rind is emmenagogue.

CCCCII.

Allium (*Garlic*).

Cor. infera, 6-petala, pet. ovata ſeſſilia.

The root and its juice are the parts uſed. They poſſeſs an acrid taſte, and a peculiar volatile ſmell, called alliaceous. Their qualities are diaphoretic, anthelminthic, aphrodiſiac, diuretic, and rubefacient. When boiled, they are emollient and maturating. Externally, the juice is uſed in toothach and rheumatic dropſy. In the form of cataplaſm, they are applied to phlegmon, bubo, and ſwellings of the anus.

CCCCIII.

Allium Sativum (*Cultivated Leek*).

The recent root and juice are here uſed as in the former. They poſſeſs an acrid ſubcauſtic taſte, with an alliaceous volatile ſmell. Their virtue reſides in an acrid principle, and a ſmall proportion of volatile oil. They are diuretic, diaphoretic, anthelminthic, rubefacient, and maturating. The juice is uſed externally in deafneſs, herpes, and corns; and the recent root and juice is internally exhibited in quartan, in dyſpepſia, dropſy, aſthma, and ſcurvy.

CCCCIV.

Lilium (*Lily*).

Cor. infera, 6 petala, petalis baſi canaliculato-tubularis.

Lilium Candidum (*White Lily*).

The white petals poſſeſs a fragrant odor, and the root a mucilaginous quality.

CCCCIV.

Scilla (*Squill*).

Cor infera, 6-petala decidua, filam. filiformia.

Scilla Maritima (*Sea Onion*).

The root of this perennial plant, growing on the ſandy ſhores on the ſouth of Europe, poſſeſſes a taſte intenſely bitter, nauſeous, and acrid. Its quality reſides in an acrid volatile principle. Its virtues are diuretic, expectorant, emetic, and cathartic. It is employed in dropſy, jaundice, baſtard peripneumony, catarrhal aſthma, and in theſe ſeveral caſes it is joined with opium, aromatics, or mercury. Externally, it is uſed in friction to the belly in dropſy. The doſe of the recent root is from 5 grains to 20; of the dried, from 1 grain to 6. Its various forms are wine, vinegar, and oxymel.

CCCCV.

Aſparagus (*Aſparagus*).

Cor. infera, 6 petala, bacca 6-ſperma.

Aſparagus Officinalis (*Garden Aſparagus*).

The root of this perennial plant is the part uſed. It is ſweetiſh and inodorous, giving the urine a fœtid ſmell, which is corrected by the addition of an acid. Its qualities are diuretic.

CCCCVI.

Dracena (*Dragon Tree*).

Cor. infera, 6-petala, bacca 3-ſperma.

Dracena Draco (*Dragon's Blood*).

The reſin, or concrete juice of this Oriental ſhrub is the part uſed. It poſſeſſes a ſtyptic quality, and is therefore uſed in hemorrhages, leucorrhæa, and all morbid diſcharges of a paſſive nature.

CCCCVII.

Alöe (*Aloes.*)

Cor. infera, 6-fida, filam. receptaculo inſerta.

The inſpiſſated juice of this perennial plant is the part uſed. Its taſte is intenſely bitter and nauſeous. Its ſmell is moſtly reſinous. Its virtue reſides in an extractive reſinous principle. It is cathartic, particularly by its action affecting the rectum; ſtomachic, emmenagogue, and anthelminthic. It is given internally in coſtiveneſs, pyroſis, dyſpepſia, and ſuppreſſed hemorrhoids; externally, in putrid ulcers, and in caries, &c. Its forms are an extract, tincture, and wine. The doſe of the extract, 2 grains, or more; of the tincture, from half an ounce to 2 ounces; and of the wine, from a dram to half an ounce.

CCCCVIII.

Acorus (*Sweet Flag*).

Spadix multiflorus, capſ. 3-locularis.

This perennial plant is the production of moiſt marſh grounds. The root is the part uſed, which has an aromatic bitter taſte, with a fragrant ſmell. Its virtues are ſtimulant and ſtomachic. It is employed in dyſpepſia, in doſes of half a dram. Its preparations are an extract and candy.

CCCCIX.

2. Digynia comprehends the plants of this claſs, which have two ſtiles; the only medical article of which is the

CCCCX.

Oriza (Rice).

Glum 1-flora, cor. 2-glumis, ſem. oblongum.

This annual plant is mucilaginous and ſweet, and farinaceous. Its virtues are nutrient and lubricating. It is employed as a medicine in diarrhœa and dyſentery.

CCCCXI.

3. The individuals of the order of trigynia, or thoſe which have three ſtiles, are:

CCCCXII.

Rumex (Dock).

Cal. 3-phyllus, cor. 3-petala, ſem. triquetrum.

Rumex Acetoſa (Sorrel).

The herb, ſeed, and root, are all uſed. The firſt has an acid taſte, the root and ſeeds are auſtere and bitter. Its virtues are thoſe of an antiſeptic. It is employed, in the herb and juice, in ſcurvy and cutaneous diſeaſes; and externally in the form of cataplaſm to ſcrofulous ulcers.

CCCCXIII.

Rumex Acutus (Sharp-pointed Dock).

It poſſeſſes a bitteriſh and acidulous taſte. Its virtues are as a ſtyptic, being uſed in decoction in itch and cutaneous diſeaſes; and externally, in atonic ulcers.

CCCCXIV.

Rumex Alpinus (*Alpine Dock*).

This ſpecies has a bitter cauſtic taſte; and, being aſtringent, is applied to atonic ulcers.

CCCCXV.

Rumex Hydrolapathus (*Water Dock*).

This ſpecies has alſo a bitter acrid ſtyptic taſte. Its virtues are aſtringent and reſolvent. It is employed in decoction in diſeaſes of the ſkin, and ſcurvy; externally, in the form of lotion to ulcers, from 2 drams to half an ounce, in the proportion to 1 lb. of fluid in decoction.

CCCCXVI.

Rumex Sanguineus (*Bloody Dock*).

This ſpecies poſſeſſes the ſame auſtere taſte, is aſtringent, and employed in dyſentery and ulcers.

CCCCXVII.

Rumex Scutatus.

The taſte of this ſpecies is gratefully acid and refrigerant.

CCCCXVIII.

Colchium (*Meadow Saffron*).

Cal ſpatha, cor. 6 petaloidea.

Colchium Autumnale (*Autumnal Meadow Saffron*).

The root of this perennial plant, the part uſed, has a taſte intenſely acrid and nauſeous, with a rank ſmell. Its virtues are narcotic, draſtically cathartic, and diuretic. It is employed in dropſy; and its preparations are a vinegar and oxymel.

CCCCXIX.

4. Of the orders of tetragynia and polygynia, there are no medical articles.

CCCCXX.

CLASS VII. HEPTANDRIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers, furniſhed with ſeven ſtamina. The orders of this claſs are four.

CCCCXXI.

1. Monogynia, the firſt order, comprehends ſuch plants as have but one ſtile; and of this order only one medical article occurs.

CCCCXXII.

Æſculus (*Cheſnut*).

Cor. rotata, ſub-ſeptem-partita, Cal. 5-dentatus, capſ. 3 locularis, 2 ſperma.

Æſculus Hypocaſtanum (*Common Horſe-Cheſnut*).

The bark of this tree, the part uſed, is aſtringent; and is uſed in the form of powder, or extract, in intermittents.

CCCCXXIV.

CLASS. VIII. OCTANDRIA.

This claſs is compoſed of ſuch plants as bear hermaphrodite flowers furniſhed with 8 ſtamina. The orders of it are four.

CCCCXXV.

1. The firſt, or monogynia, comprehends ſuch plants as have but one ſtile, the medical articles of which are:

CCCCXXVI.

Fl. Completi.

Trapæolum (*Creſs*).

Cor. 5 petala, cal. 5-fidus infer. calcarat. Bacca 3, 1 ſpermæ.

Trapæolum Majus (*Indian Creſs*).

This annual plant is acrid to the taſte, is diuretic in quality, and uſed in ſcurvy.

CCCCXXVII.

Amyſis.

Cor. 4 petala, cal. 4-dentatus infer. Bacca 1 ſperma.

Amyſis Elemifera (*Gum-Elemi*).

The reſin of this American tree is of a pellucid yellow colour. Its virtues are reſolvent and ſtimulant. It is externally uſed in plaſters and ointments.

CCCCXXVIII.

Amyſis Gileadenſis (*Balm of Gilead*).

This production is from the ſame tree, as well as the

CCCCXXIX.

Amyſis Zeylandia.

This ſpecies, from Ceylon, agrees in qualities with the former.

CCCCXXX.

Vaccinium.

Cor. 1 petala, cal. 4-dentatus ſuper. bacca filam. receptaculi.

Vaccinium Myrtillus (*Bill-Berry*).

The recent fruit of this ſhrub poſſeſſes an acid ſtyptic taſte. Its virtues are ſomewhat aſtringent and antiſeptic. It is employed in bilious and putrid fevers, in diarrhœa and ſcurvy. Its forms are a ſyrup and rob.

CCCCXXXI.

Vaccinium Vitis Idæa (*Red Bill-Berry*).

The fruit is acid and refrigerant, and employed in acute fevers in the form of rob.

CCCCXXXII.

Vaccinium Oxycoccos (*Granberry*).

This ſpecies agrees in qualities with the former.

CCCCXXXIII.

Daphne.

Cal. 4 fidus, corollinus æqualis,
ſtam. incluſa, bacca pulpoſa.

Daphne Mezereum (*Mizerium*).

The bark of the root is the part uſed, which has an acid burning taſte. Its virtue reſides in an acrid principle. It is draſtically cathartic, emetic, diuretic, and externally corroſive and veſicant.

In the form of decoction it is employed againſt diſeaſes of the ſkin, and venereal affections of the bones; and externally, in the form of cataplaſm to ſchirrus and leproſy. Two drams of the bark is the proportion to 2 lbs. of water. The antidote is camphor.

CCCCXXXIV.

Daphne Laureola (*Spurge Laurel*).

This ſpecies reſembles the former, and the bark moiſtened with vinegar is often applied in place of a bliſter. Its only preparation is an ointment for iſſues.

CCCCXXXV.

2. In the order of digynia, no medical articles occur.

CCCCXXXVI.

3. In the order of trigynia, or plants having three ſtiles, the number is ſmall.

CCCCXXXVII.

Polygonum.

Cor. 0. cal. 5 partitus, ſem. 1. nudum.

Polygonum Biſtorta (*Great Biſtort*).

The root, the part uſed, has a ſtyptic taſte, and its virtue reſides in an aſtringent principle. It is tonic and aſtringent, and employed with gentian, in the form of powder, decoction, and infuſion, in intermittents, propheria, or paſſive diſcharges, and in leucorrhœa. The doſe is 3 drams a day.

CCCCXXXVIII.

4. In the order of tetragynia, or plants having four ſtiles, there is only

CCCCXXXIX.

Paris.

Cor 4 petala ſubulata, cal. 4 phyllus, bacca 4 locularis.

Paris Quadrifolia (*True-Love*).

The fruit and plant are the parts uſed. It poſſeſſes a ſweetiſh taſte, with a rank ſmell. It is employed in convulſions, madneſs, bubo, and ophthalmia.

CCCCXL.

CLASS IX. ENNEANDRIA.

This claſs is compoſed of ſuch plants as bear hermaphrodite flowers, furniſhed with nine ſtamina. It conſiſts of three orders.

CCCCXLI.

1. The firſt order, monogynia, comprehends ſuch as have but one ſtile.

CCCCXLII.

Laurus.

Cal. o. cor. 6 petala calycin, bacca 1 ſperma.

Laurus Cinnamomum (*Cinnamon*).

The bark of this tree, the production of Ceylon, is the part uſed. It poſſeſſes firſt a ſweet, then an acrid aromatic agreeable taſte, with a highly fragrant ſmell. Its virtue reſides in a volatile oil. It is cordial, ſtimulant, calefacient, tonic, antiſpaſmodic, ſtomachic, carminative, and aphrodiſiac. It is employed in dyſpepſia, anaphrodiſis, and alenic diſeaſes. The doſe of the powder is from 10 to 30 grains. Its various preparations are in watery and vinous infuſion, in ſpirit, tincture, and volatile oil.

CCCCXLIII.

Laurus Caſſia (*Caſſia*).

The herb and flowers of this ſpecies are the parts uſed. It poſſeſſes an acrid aromatic taſte, with a fragrant ſmell, but both weaker than the former. Its principle reſides alſo in a volatile oil. It is ſtimulant and calefacient, and employed in palſy of the tongue. The flowers ſupply the place of the cinnamon bark. Its preparation is its volatile oil.

CCCCXLIV.

Laurus Cutilanus (*Clove-tree*).

This ſpecies is the production of Amboyna and the Molucca Iſlands. The bark is the part uſed. It poſſeſſes an aromatic taſte, reſembling that of caſſia, at the ſame time mucilaginous and ſomewhat aſtringent. It is calefacient, tonic, carminative, and ſtomachic. It is employed in palſy, flatulent cholic, and dyſpepſia.

CCCCXLV.

Laurus Myrrha (*Myrrh-tree*).

This ſpecies is the production of China, and from it probably the reſinous gum is extracted.

CCCCXLVI.

Laurus Nobilis (*Common Sweet Bay*).

The leaves and berries are the parts uſed. It poſſeſſes an acrid aromatic bitteriſh taſte. Its virtue reſides in a volatile, mixed with a fixed oil. It is calefacient, ſtomachic, carminative, and reſolvent. It is employed internally in amenorrhæa dyſpepſia, chloroſis, hyſteria, and lochial pains, externally, in the form of oil, in cold tumors, itch, and vermin. The only preparation is the oil.

CCCCXLVII.

Laurus Pecunia.

The fruit of this tree, the production of Brazil, is the part uſed. It poſſeſſes an agreeable bitteriſh aromatic, and ſomewhat ſtyptic taſte, with a fragrant ſmell. Its virtue reſides in a volatile, mixed with a fixed oil. It is ſtimulant, ſtomachic, and ſomewhat aſtringent. It is employed in chronic dyſentery, diarrhœa, and pains of the belly. The doſe is 10 grains of the powder in ſugar.

CCCCXLVIII.

Laurus Saſſafras (Saſſafras-tree).

The root and bark are the parts of this Virginian tree uſed. It poſſeſſes an aromatic, ſomewhat ſweetiſh, taſte, with a fragrant ſmell. Its principle reſides in a copious volatile oil. It is ſtimulant, diuretic, and ſudorific. It is uſed in the form of decoction and infuſion in cachexy, lues, and chronic rheumatiſm, and gout; alſo in cutaneous diſeaſes. Its preparation is the volatile oil.

CCCCXLIX.

Anacardium.

Cal. 5 partitus, cor. 5 petala, nux receptaculo carnoſo. ſtam decimocaſtrato.

Anacardium Occidentale (Caſhew Nut).

The nut of this tree, the production of the

Brazils and the Weſt Indies, is of a black cauſtic oily nature. It excoriates, and gives a black tinge. It is employed in maculæ, impetigo, and herpes.

CCCCL.

2. The next order of this claſs is trigynia, or plants having four ſtiles, the only ones of which are:

CCCCLI.

Rheum (*Rhubarb*).

Cal. o. car. ſida ſem. 1. triquetrum.

Rheum Palmatum (*Officinal Rhubarb*).

The root, the part uſed, poſſeſſes an acrid bitter, ſomewhat ſtyptic and nauſeous, taſte, with a nauſeous ſmell when preſſed. Its virtue reſides in a mucilaginous reſinous principle, with a peculiar ſalt, ſtated the oxolate of lime. It is cathartic, tonic, antiacid, ſtomachic, and anthelmintic. It is employed in diarrhæa, colic, dyſentery towards the termination, in rickets, and abdominal obſtructions. Its forms are the powder in doſes from 10 grains to 1 dram; the infuſion, in the proportion of a dram to 6 or 8 ounces of water. Its other preparations are a tincture, ſyrup, and watery alkaline infuſion.

CCCCLII.

Rheum Rhaponticum (*Rhapontic Rhubarb*).

This ſpecies is more ſtyptic and leſs nauſeous than the former. It is employed in diarrhæa and leucorrhæa.

CCCCLIII.

Rheum Undulatum (*Chineſe Rhubarb*).

This ſpecies is more cathartic than the firſt.

CCCCLIV.

Class X. Decandria.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers furniſhed with ten ſtamina. The orders are five.

CCCCLV.

1. The firſt, or monogynia, comprehends ſuch as have one ſtile, the medical articles of which are:

CCCCLVI.

Hymenæa.

Cor. ſub inæqualis legum. lignoſum pulpa farinoſa

Hymenæa Camboril (*Locuſt Tree*).

A reſin from the bark and root is the part uſed. It is yellow and pellucid, with a reſinous taſte and fragrant ſmell. Its virtues are nervine, and it is employed in muſcular contraction and paralyſis.

CCCCLVII.

Caſſia.

Cor. inæqualis anther. retortæ legum. iſthmis interceptum.

Caſſia Fiſtula (*Purging Caſſia*).

The fruit and pulp are the parts uſed of this Oriental tree. It poſſeſſes a ſweetiſh acid taſte, mucilaginous, and ſomewhat nauſeous. It is cathartic, and employed in coſtiveneſs, from half an ounce to two ounces for a doſe.

CCCCLVIII.

Caſſia Senna (*Senna*).

The leaves of this African ſhrub are the parts uſed. They have ſome ſlight acrimony and bitterneſs of taſte, with a nauſeous ſmell. Their virtue is cathartic. They are employed in coſtiveneſs in the form of tincture or infuſion, and externally againſt herpes.

CCCCLIX.

Myroxylon Peruiferum (*Balſam of Peru*).

This tree, the growth of South America, produces this balſam, which has an acid taſte and ſweet-ſmelling odor. It is employed in dyſpepſia, ſpaſm, amenorrhæa, gonorrhæa, cold affections of the bowels, conſumption, and ulcers. Externally, it is applied to rheumatic fever. The doſe is 6 to 30 grains often in the day, beat up with the yolk of an egg or ſugar.

CCCCLX.

Flores Polypetali Æqualis.

Guiacum (*Guiac*).

Cal. lacin. 2 exteriores minores, capſ. carnoſa, 3. ſperm. 4-locularis anguſtatis

Guiacum Officinale.

The wood, bark, and concrete gum of this Weſt Indian tree are all uſed. The bark and wood have a bitteriſh and ſomewhat acrid taſte, while the gum is highly acrid and pungent. Its virtues are thoſe of a ſtimulant, ſudorific, and attractive. It is given in ſiphylis, wandering gout, rheumatiſm, atonic diſeaſes of the lungs, leucorrhæa, and cutaneous affections. The bark and wood are exhibited in decoction in the proportion of 1 ounce of them to 2 lbs. of water; while the gum is given from two and twenty grains to a dram, in the form of powder or tincture.

CCCCLXI.

Dictamnus (*Dittany*).

Cor. patula, filam. pulveracea capſ.
5 connexæ, ſem arillata.

Dictamnus Albus (*White Dittany*).

The root of this perennial plant is the part uſed. It poſſeſſes a bitteriſh and ſlight aromatic taſte, with an ambroſial ſmell in its recent ſtate. Its qualities are nervine, anthelminthic, and emmenagogue. It is uſed in epilepſy, leucorrhæa, and worms. It is given in tincture, from 20 drops to a dram a day.

CCCCLXII.

Ruta (*Rue*).

Germen genitis 10 melliferis, capſ.
5-fida, 5 locularis, polyſpermæ.

Ruta Graveolens (*Common Rue*).

The ſeeds and plant are both uſed. They poſſeſs a nauſeous acrid bitter taſte, with a fœtid ſmell. Their principle reſides in a volatile oil. Their qualities are ſudorific, carminative, antiſeptic, antiſpaſmodic, emmenagogue, anthelminthic, reſolvent, and rubefacient. They are employed chiefly in the form of an infuſion or decoction, and that againſt amenorrhæal hyſteria, and ſpaſm, headach, hiccup, epilepſy, and flatulence. Externally, it forms an application in ægena and putrid ulceration of fevers attended with caries. It is prepared in the form of vinegar, volatile oil, water, conſerve, and extract.

CCCCLXIII.

Toluifera Balſamum (*Balſam of Tolu*).

Cor. petala infimo majore, cal. campanulata, ſtilo o.

The balſam from this South American tree poſſeſſes a particular aromatic ſmell. Its virtue reſides in a reſinous principle, mixed with benzoic acid, It is ſtimulant and diuretic, and employed in gonorrhœa, in cold affections of the bowels, in catarrhal conſumption, and in ulcers and wound. Its forms are a tincture and ſyrup.

CCCCLXIV.

Hæmatoxylum.

Piſtilli ſtigma emarginatum ſiliqua valvis navicularibus.

Hæmatoxylum Campechianum (*Log-wood*).

This wood poſſeſſes a ſtyptic taſte and dying quality. It proves tonic and aſtringent. It is uſed towards the end of dyſentery in the form of decoction, the proportion being 2 ounces to 2 lbs., reduced by boiling to 1; and in extract, from 10 to 40 grains the doſe.

CCCCLXV.

Sinutinia.

Nectar tubuloſum, 10-dentatum, capſ. lignum, 5-valv. ſem. imbricata.

Sinutinia Mahogani (Mahoghany Tree).

The bark, the part uſed, poſſeſſes a bitter ſtyptic taſte. It is uſed as a tonic, like the Peruvian bark, and is therefore ſubſtituted for it.

CCCCLXVI.

Quaſſia (Quaſſy).

Capſ. 5. bivalves, 1 ſpermæ inſertæ receptaculo carnoſo.

Quaſſia Amara (Bitter Quaſſy).

The wood of this tree poſſeſſes a ſtrong and purely bitter taſte, without any ſmell. It is ſtomachic, antiacid, and antiſeptic. It is employed in dyſpepſia, intermittents, gout, and leucorrhæa. Its form is that of decoction or infuſion, in the proportion of 2 drams, or half an ounce to the lb. of fluid. Four grains are the doſe of the powder. It is alſo prepared in extract.

CCCCLXVII.

Quaſſia Semaruba (Winged Leaved Quaſſy).

The bark of this Weſt India tree is the part uſed. It is a pure bitter like the former, and without ſmell. It is ſtomachic, ſlightly aſtringent, and diuretic. It is uſed in dyſpepſia, diarrhœa, chronic dyſentery, and intermittents. Its forms are, the powder in a doſe, half a dram; the decoction in the proportion of two drams, or half an ounce to the lb. of fluid.

CCCCLXVIII.

Ledum.

Cor. plano, 5 partita capſ. 5 locul. polyſperma.

Ledum Paluſtre (*Marſh Ledum*).

The leaves and flowers are the parts uſed. They have a bitteriſh aſtringent taſte, with an odorous ſmell. Their principle reſides in a narcotic oil, and a bitter extract. They are narcotic and ſudorific. They are employed in leproſy, itch, tinea, chincough, and againſt vermin. The form is that of infuſion, in the proportion of half an ounce, or an ounce, to the lb. of fluid, uſing half a lb. of it a day.

CCCCLXIX.

Flores Monopetali Æquales.

Rhododendron.

Cor. infundibulif. ſtamina declinata, capſ. 5 locularis.

Rhododendron Cryſantheum.

The roots and plant are both uſed. It is a ſhrub, the production of the Northern mountains of Aſia, having a bitter ſtyptic taſte, and its principle reſides in a bitter aſtringent narcotic extract. Its qualities are ſudorific and aſtringent. It is employed in gouty rheumatiſm, in ſtiffneſs of joints, in contraction, and in palſy. Its form is that of infuſion, in the proportion of two drams, or half an ounce, to nine or twelve ounces of fluid, taking every morning two ounces for a doſe.

CCCCLXX.

Arbutus.

Cor. ovata baſi diaphana, bacca 5-locularis.

Arbutus Uva Urſi (*Bear's Whortleberry*).

The leaves of this ſhrub, which grows in ſandy hills, is the part uſed. They poſſeſs a bitter ſtyptic taſte, and are without ſmell. In their qualities they are aſtringent and diuretic. They are employed in urinary calculus, and in ulcers of the reins and bladder. The doſe is from twenty grains to two drams.

CCCCLXXI.

Styrax (*Storax*).

Cor. infundibilif. drupa diſperma.

Styrax Officinalis (*Common Storax*).

This concrete balſam poſſeſſes an acrid taſte and a fragrant ambroſial ſmell. It is ſtimulant and nervine; and externally it is uſed for fumigations and plaſters.

CCCCLXXII.

Styrax Benzoin (*Benjamin*).

This concrete balſam is of two kinds, a whitiſh pure kind, and a colored, or impure. It has an acrid pungent taſte, with a fragrant ambroſial ſmell. Its qualities are ſtimulant, nervine, and expectorant. Its virtue reſides in a peculiar acid and a reſinous principle. The acid is uſed in affections of the breaſt, connected with phlegm; externally, it is employed in redneſs of the face, and for fumigation. The doſe of the acid ſalt is from 15 grains to half a dram. Its preparations are the flowers and tincture.

CCCCLXXIII.

Flores Apetali Superi incompleti.

Copaifera.

Cal. o., cor. 4 petala.

Copaifera Officinalis (*Balſam Capivi*).

This balſam, along with a fragrant ſmell, has an aromatic, ſlightly acrid, and bitteriſh taſte, giving even the urine the ſame impreſſion. Its quality reſides in a reſinous principle, and its appearance is yellowiſh, with much conſiſtence and tenacity. It is ſtimulant and diuretic, and employed in gonorrhœa, leucorrhæa, atonic diſeaſes of the lungs, reins, and liver, and after the operation of circumciſion. Its doſe is from 30 to 40 drops twice a day in a proper vehicle.

CCCCLXXIV.

2. Of the order of digynia, or plants which have two ſtiles, three are only in medicine.

CCCCLXXV.

Saponaria (Soapwort).

Cor. 5 petala, cal. tubuloſus, baſi nudus, capſ. 1. locul. oblonga.

Saponaria Officinalis (Common Soapwort).

The root and leaves of this perennial plant are the parts uſed. The former, when recent, has a ſlightly acid and bitter taſte; and, when beat, has a ſperma or froth, like ſoap. Its qualities are diuretic and anthelminthic. It is employed in cutaneous diſeaſes, in gonorrhœa and lues, and in jaundice, and alſo in ſome phagedenic ulcers. Its form is that of decoction.

CCCCLXXVI.

3. Of the order of trigynia and tetragynia, there are no medical articles of this claſs; but of the Pentagynia, or ſuch plants as have five ſtiles, there are,

CCCCLXXVII.

Sedum.

Capſ. 5 ad nectaria, cor. 5 petala.

Sedum Acre (Wall-ſtone-crop).

The recent plant and expreſſed juice are uſed. Their quality reſides in an acrid and gently cauſtic principle. They prove diuretic and emetic. Externally, the recent plant, bruiſed, is applied to cancer and phagedenic ulcers.

CCCCLXXVIII.

Oxalis (Sorrel).

Capſ. 5 locular. angulata, cor. baſi ſub-cohærens.

Oxalis Acetocella (Common Wood-Sorrel).

The leaves and recent plant are uſed. They poſſeſs an intenſely acid, but agreeable taſte. Their principle reſides in a peculiar acid. They are refrigerant, and employed in fevers; and externally, in the form of cataplaſm, to ſcrofulous glandular ulcers. The preparations of this plant are, ſalt of ſorrel, its conſerve, and ſyrup.

CCCCLXXIX.

4. Of the order of decagynia, or ſuch plants as have ten ſtiles, there is one medical article.

CCCCLXXX.

Phytolacca.

Cal. 5 phyllus corollinus, cor. nulla, bacca 10 cocca.

Phytolacca Decandra (Virginian Poke-weed).

The expreſſed juice of this perennial plant is moſt uſed. In its full grown ſtate it is acrid to the taſte, and employed as a gentle cauſtic and remedy againſt cancer; and the manner of uſing it is by pouring the expreſſed juice by drops upon the ulcer.

CCCCLXXXI.

CLASS XI. DODECANDRIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers, furniſhed with any number of ſtamina, from 12 to 19 incluſive. The orders of this claſs are five.

CCCCLXXXII.

1. The firſt, or monogynia, comprehends ſuch plants as have but one ſtile; the medical articles of which are:

CCCCLXXXIII.

Aſarum (*Aſarabacca*).

Cor. 0. cal. 3-fidus ſuperus, capſ. 6-locularis.

Aſarum Europæum (*Common Aſarabacca*).

The fibres of the root and leaves are the parts uſed. They poſſeſs, with a fragrant ſmell, an acrid, nauſeous, bitteriſh taſte. Their virtue reſides in an acrid volatile principle; and they prove emetic, cathartic, errhine, diuretic, ſudorific, and emmenagogue. They are uſed in dropſy and intermittents; externally, as an errhine in headach. Their internal form is that of decoction, in the proportion of 2 drams to a lb. of water, taking an ounce every two or three hours.

CCCCLXXXIV.

Winterana.

Cor. 5-petala. cal. 3 lobus inferus, bacca 3-locularis, 2 ſperma.

Winterana Canella (*Laurel-Leaved Canella*).

The inner bark of this Weſt Indian tree is the part uſed. To the taſte it is ſlightly acrid and bitteriſh. Its qualities are ſtimulant and carminative. It is employed in dyſpepſia in the form of a powder, to a doſe of 30 grains; and in the infuſion, in a proportion of half a dram, or 2 drams to the lb. of fluid.

CCCCLXXXV.

Lythrum.

Cor. 6 petala, cal. 12-fidus inferus, capſ. 2-locularis.

Lythrum Salicaria (*Purple Willow Herb*).

The leaves and root of this perennial plant are the parts uſed. They poſſeſs a ſtyptic quality, and are employed in diarrhœa, chronic dyſentery, leucorrhœa, and hemoptyſis.

CCCCLXXXVI.

Garcinia.

Cor. 4 petala, cal. 4 phyllus inferus, bacca, 8 ſperm. coronata.

Garcinia Mangoſtana (*Bread-Fruit Tree*).

The bark is the part uſed, which poſſeſſes a ſtyptic quality, and is employed, in the form of infuſion or tincture, in dyſentery, teneſmus, and aphtha.

CCCCLXXXVII.

2. Of the Digynia, or ſecond order, having two ſtiles, there is only one medical article.

CCCCLXXXVIII.

Agrimonia (*Agrimony*).

Cor. 5 petala, cal. 5 fidus, ſem. 1. 2 ſperm.

Agrimonia Eupatoria (*Common Agrimony*).

This perennial plant is of an aſtringent quality, and is little employed.

CCCCLXXXIX.

3. Of the order of trigynia, or plants having three ſtiles, there is only the

CCCCXC.

Euphorbia (*Euphorbium*).

Cor. petal. peltatis, cal. ventricoſ. capſ. 3 cocca.

Euphorbia Officinoſum (*Officinal Spunge*).

The concrete juice, or gum reſin, is the part uſed. It poſſeſſes an acrid burning taſte. Its virtue reſides in an acrid reſinous principle. It proves draſtically cathartic, rubefacient, and veſicatory. Its preparations are a tincture and plaſter; the former being uſed in puncture, and the latter as an application in chronic rheumatiſm.

The different ſpecies of emphorbia are nearly ſimilar in their properties; as, *Euphorbia Lathyſis*, (*Caper Spunge*); *Euphorbia Paluſtris* (*Marſh Spunge*); *Euphorbia Hirſuta* (*Wolf Milch*); *Euphorbia Caneſcens* (*Anti-Siphylitic Spunge*); *Euphorbia Perviſlora* (*id*).

CCCCXCI.

3. Of the other orders of this claſs, the only remaining article belongs to the dodecagynia, or plants having 12 ſtiles.

CCCCXCII.

Sempervivum (*Houſeleek*).

Cor. 12-petala, cal. 12-partit. capſ. 12.

Sempervivum Tectorum (*Common Houſeleek*).

The recent juice of this perennial plant is chiefly uſed. It poſſeſſes an acrid auſtere taſte, with a little acrimony. It proves refrigerant and aſtringent, and is employed in fevers, burns, aphthæ, and corns.

CCCCXCIV.

CLASS XII. ICOSANDRIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers with the following characters, a monophyllous and concave calyx, with a corolla faſtened by its claws to the inner ſide of the calyx, and the ſtamina 20 or more. The two firſt characters, however, form the diſtinction. The orders of this claſs are five.

CCCCXCV.

1. The firſt, or monogynia, comprehends ſuch plants as have but one ſtile. Of theſe the medical articles are,

CCCCXCVI.

Cactus (*Fig*).

Cal. ſuperus, 1-phyllus, cor. multifida, bacca 1-locularis, polyſperma.

Cactus Opuntia (*Common Indian Fig*).

The leaves of this ſhrub poſſeſs a mucilaginous quality; and, in the form of cataplaſm, they are applied to pains, dyſentery, and rheumatiſm.

CCCCXCVII.

Myrtus (*Myrtle*).

Cal. ſuperus, 5-fidus, cor. ſub, 5 petala, bacca 3 locularis, 1 ſperma.

Myrtus Communis (*Common Myrtle*).

The leaves and berries of this tree are the parts uſed. They poſſeſs an aromatic and ſlightly ſtyptic taſte, with a fragrant ſmell. In their qualities they are warming and aſtringent, and employed againſt profluvia.

CCCCXCVIII.

Myrtus Carophyllatus (Weſt India Myrtle).

The bark is the part uſed. It has an aromatic pungent taſte, with a fragrant ſmell. It poſſeſſes ſtomachic qualities.

CCCCXCIX.

Myrtus Pimenta (Long-Leaved Pimento).

The berries are the part uſed. Their taſte is aromatic, with a grateful fragrant ſmell. Their virtues are, warming, ſtomachic, and ſtimulant. They are chiefly uſed as a ſeaſoning to food.

D.

Punica.

Cal. ſuperus, 5-fidus, cor. 5 petala.
pomum 10 loculare, polyſpermum.

Punica Granatum (Common Pomgranate).

The petals of the flowers, the bark of the fruit, and the ſeeds, are all uſed. They poſſeſs a ſtyptic taſte, are aſtringent, diuretic, and anthelminthic. In the form of decoction, or infuſion, they are externally uſed as a fomentation, injection, or gargle, in prolapſus, laxity of the uvula, and gonorrhæa. Internally, they are uſed in diarrhæa. The proportion of the flowers, or bark, is an ounce to one pound of fluid.

DI.

Amygdalus (*Almond*).

Cal. inferus, 5-fidus, cor. 5 petala.
drupa, nucleo foraminuloſo.

Amygdalus Communis (*Common Almond*).

The variety of which is the bitter and ſweet. Their quality reſides in a fixed oil. They are nutritive, lubricating, and emollient. The ſweet kind are employed in fevers and cough in the form of emulſion, the bitter in drunkenneſs and worms. The oil is the chief preparation.

DII.

Amygdalus Perſica (*Peach Tree*).

The recent flowers and fruit are the parts uſed. In their quality, the nuts are oily and mucilaginous, and the ſmell of the flowers is peculiar.

DIII.

Prunus.

Cal. inferus, 5-fidus, cor. 5 petala.
drupa, nucleo integro.

Prunus Avium (*Small-Fruited Cherry Tree*).

The fruit has an acrid taſte, the kernels have the taſte and ſmell of the lauroceraſus.

DIV.

Prunus Ceraſus (*Cultivated Cherry Tree*).

The fruit, kernel, and gum, are all uſed. The fruit has a ſweetiſh acid taſte, and is refrigerant. From the kernels is prepared a diſtilled water, and the gum is the ſame as the gum of the mimoſa nilotica.

DV.

Prunus Domeſtica (*Common Plum Tree*).

The fruit and pulp are the parts uſed. They poſſeſs a mucilaginous ſweet taſte, with a ſlight acidity. They are eccoprotic, and employed in fevers and coſtiveneſs.

DVI.

Prunus Lauraceraſus (*Common Laurel*).

The leaves are the part uſed. They are poiſonous, and poſſeſs a bitter taſte. Their virtue reſides in a volatile oil and narcotic principle. They prove narcotic, antiſpaſmodic, and deobſtruent. The diſtilled water is uſed, in a doſe of from 30 to 40 drops, in ſchirrus, cancer, obſtruction of the liver, dyſuria, ſiphylis, and phthiſis.

DVII.

Prunus Padus (*Common Bird Cherry*).

The bark is the part uſed. Its taſte is bitter and ſomewhat ſtyptic. It is employed, in decoction, in the proportion of one ounce to a pound of fluid, and alſo in extract, in intermittents, and ſiphylis.

DVIII.

Prunus Spinoſa (*Sloe Tree*).

The berries, flowers, and inſpiſſated juice, are all uſed. The berries have a ſtyptic ſouriſh taſte, the flowers a fragrant ſmell and bitteriſh taſte. The berries are antiſeptic, tonic, and aſtringent;

the flowers, eccoprotic. The fruit is uſed in bilious and putrid fevers, and in diarrhæa.

DIX.

3. Of the order of trigynia, or plants having three ſtiles, the medical articles are:

DX.

Sorbus (*Service Tree*).

Cal. ſuperus, 5-fidus, cor. 5 petala, bacca 3 ſperma.

Sorbus Aucuparia (*Mountain Aſh*).

The berries are the part uſed, the juice of which has an acid bitter taſte. In the form of rob, they are employed in dropſy, renal calculus, and obſtinate ſtrangury.

DXI.

Sorbus Domeſtica.

The fruit poſſeſſes an acid auſtere taſte, and in its qualities it is aſtringent.

DXII.

3. Of the plants which have five ſtiles, or the pentagynia, the following medical articles occur:

DXIII.

Meſembryanthemum.

Cal. ſuperus 5 fidus, cor. multifida, capſ. carnoſa, locularis polyſperma.

Meſembryanthemum Cryſtallinum (*Annual Mercury*).

This annual plant has an agreeable ſaline cooling taſte. The juice is uſed in ſpaſmodic pain of the bladder, dyſuria, iſchuria, calculus, and chincough. The proportion is an ounce and a half to a pound of water.

DXIV.

Pyrus (Pear Tree).

Cal. ſuperus, 5-fidus, cor. 5 petala.
pomum 5-loculare polyſpermum.

Pyrus Communis (Common Pear Tree).

The fruit of this tree poſſeſſes a ſweetiſh ſtyptic taſte, and is nouriſhing.

DXV.

Pyrus Cydonia (Common Quince Tree).

The fruit, ſeeds, and bark, are all uſed. The fruit has a grateful ſmell, with an acid ſtyptic taſte. The ſeeds are mucilaginous. The quality of the fruit is aſtringent and cooling, the ſeeds are emollient, and the bark is emmenagogue. The rob and mucilage are its preparations.

DXVI.

Pyrus Malus (Apple Tree).

The fruit poſſeſſes an acid ſweet taſte. They are eccoprotic and refrigerant. In the form of cataplaſm they are employed in ophthalmia and putrid ulcers; in decoction, they are exhibited in fevers.

DXVII.

Spiræa.

Cal inferus, 5-fidus, cor. 5 petala.
capſ. plures congeſtæ.

Spiræa Filipendula (Single Flowered Dropwort.)

The root and plant are uſed. Their qualities are aſtringent, and they are employed in leucorrhæa and hernia.

DXVIII.

Spiræa Ulmaria (*Meadow Sweet*).

The root and leaves are here uſed. They poſſeſs a fragrant ſmell and ſtyptic taſte. They are aſtringent and ſudorific, and employed in dyſentery and hernia.

DXIX.

4. Of the order of polygynia, or plants having many ſtiles, the following are the medical articles:

DXX.

Roſa (*Roſe*).

Cal. 5-fidus, cor. 5 petala, cal. baccatus polyſpermus.

Roſa Canina (*Wild Roſe*).

The fruit from the ſeeds is the part uſed. It poſſeſſes a fragrant ſmell, with a ſweetiſh ſtyptic taſte. In its qualities it is eccoprotic. It is employed in rob, conſerve, and decoction.

DXXI.

Roſa Gallica (*Red Roſe*).

The petals of this ſhrub are the parts uſed. They poſſeſs a fragrant ſmell, and a ſlightly ſtyptic taſte. They are chiefly uſed as a coſmetic, and alſo in profluvia. Their form is the watery infuſion, conſerve, and ſyrup.

DXXII.

Roſa Damaſcena (*Damaſk*).

The parts uſed are the ſame as in the former, and the qualities are alſo the ſame.

DXXIII.

Rubus.

Cal. 5 fidus, cor. 5 petala, bacca compoſita.

Rubus Idæus (*Raſpberry*).

The recent fruit of this perennial ſhrub is the part uſed. It poſſeſſes a ſweetiſh acid taſte, with a grateful fragrant ſmell. It is refrigerant, and employed in fevers and ſcurvy. Its preparations are a water, juice, rob, and vinegar.

DXXIV.

Rubus Chamænoſus (*Bramble*).

The recent berries poſſeſs an acid taſte, with a fragrant ſmell. They are employed in ſynochus and bilious fevers.

DXXV.

Fragaria.

Cal. 10-fidus, cor. 5 petala, ſem. plurima ſupra recept. baccatum decidu.

Fragaria Veſca (*Strawberry*).

The recent fruit, and alſo the root and plant, are uſed. The fruit has a ſweetiſh acidulous taſte, with a fragrant ſmell. The root and plant are a little aſtringent. The qualities of the fruit are diuretic, eccoprotic, and refrigerant.

DXXVI.

Potentilla.

Cal. 10-fidus, cor. 5 petala, ſem. plurima mutica.

Potentilla Anſerina (*Common Cinquefoil*).

The root and plant are both uſed. They are aſtringent, and uſed in the chronic ſtate of dyſentery.

DXXVII.

Tormentilla.

Cal. 8-fidus, cor. 4 petala, ſem. 8 mutica.

Tormentilla Erecta (*Common Septfoil*).

The root is the part of this perennial plant uſed, which is red and ſtyptic. In its qualities it is tonic and aſtringent, and employed in menorrhæa and diarrhæa, and joined with gentian in intermittents.

DXXVIII.

Geum.

Cal. 10-fidus, cor. 5 petala. ſem. plurima ariſta geniculata.

Geum Rivale (*Waters Avens*).

The root of this perennial plant poſſeſſes a taſte bitteriſh and ſomewhat ſtyptic. It is employed in diarrhæa, chloroſis, and intermittents; externally, in powder to venereal ulcers. The doſe is from two ſcruples to a dram of the powder; and, of the decoction, the proportion is half an ounce to one pound of fluid.

DXXIX.

Geum Urbanum (*Herb Bennet*).

The root and its fibres, the parts uſed, are ſomewhat aromatic and bitteriſh, with ſomething of the ſmell of cloves. Their virtue reſides in an aſtringent principle, with a little volatile oil. They are tonic and antiſeptic, and they are employed in place of the bark in obſtinate intermittents, low fevers, dyſpepſia, diarrhœa, amenorrhœa, and chloroſis. The forms are the powder in a doſe of a dram, in decoction, the proportion being an ounce to one pound of fluid, in extract, and in tincture in doſes of half an ounce.

DXXX.

CLASS XIII. POLYANDRIA.

This claſs contains ſuch plants as bear hermaphrodite flowers furniſhed with many ſtamina, and the orders are ſeven.

DXXXI.

1. Of the firſt order, or monogynia, comprehending ſuch plants as have one ſtile, the medical articles are:

DXXXII.

Tetropetali.

Capparis.

Cal. 4-phyllus, bacca pedicillata corticoſa.

Capparis Spinoſa (*Prickly Caper Buſh*).

The bark of the root is the part uſed. It poſſeſſes a bitteriſh taſte, and is a little ſtyptic. Its qualities are aſtringent and diuretic. It is uſed in abdominal fullneſs and palſy. Its preparation is a fixed oil.

DXXXIII.

Chelidonium.

Cal. 2-phyllus, ſiliqua.

Chelidonium Majus (*Common Celadine*).

The root and recent plant are both uſed. Its taſte is bitteriſh and acrid, with a yellow juice. Its virtue lies in an acrid volatile principle. In the form of decoction it is uſed internally in cachexy, conſumption, jaundice, dropſy, and cutaneous diſeaſes.

DXXXIV.

Papaver (*Poppy*).

Cal. 2-phyllus, capſula 1-locularis coronata.

Papaver Rhæas (*Common Red Poppy*).

The flowers of this annual plant are uſed. They are bitteriſh, poſſeſs a ſlight narcotic quality, and form a bright red ſyrup.

DXXXV.

Papaver Somniferum (*Sleepy Poppy*).

This annual plant, the natural produce of Egypt and Aſia, is chiefly uſed in the gum reſin, or concrete exudation, named opium. It poſſeſſes a nauſeous acrid bitter taſte, with a ſtinking ſmell. Its virtues reſide in a narcotic principle, united with a volatile gum reſin. Its qualities are narcotic, ſudorific, and obſtipating. In a large doſe it is ſtimulant and cordial. Its exhibition is very general in all caſes of pain from irritation or ſpaſm in the end of acute inflammation, in intermittents before the fit, in chronic dyſentery, in diarrhæa and cholera, in cough from an acrid phlegm, in painful lochia and hemorrhage from local irritation or ſpaſm, in painful menſtruation and atonic gout, in the end of rheumatiſm, in aſthma, in hyſteria, in gravel, heartburn, and colic, in aſthma, and convulſion, in gonorrhæa and hernia humoralis, in obſtinate venereal ulcers, in phagedenic ſores, and the gangrene of age. The doſe is from one to 15 grains a day. Its forms are, a watery and vinous ſolution, extract, ſyrup, and decoction of the heads. Externally, it is employed in the form of glyſter, fomentation, and liniment.

DXXXVI.

Gambogia (*Gamboge*).

Cal. 4-phyllus, bacca 8-ſperma, 8-angularis.

The inſpiſſated juice of the branches of this Indian tree is the part uſed. It is dark coloured and yellow at the ſame time, inſipid, and inodorous. Its virtue reſides in a reſinous gummy principle. It is draſtically cathartic, diuretic, and ſlightly emetic. It is employed in dropſy, coſtiveneſs, tenia, jaundice, quartan fever, cachexy, and cutaneous diſeaſes. From 3 to 4 grains is the doſe in dropſy, from 10 to 20 in worms, and from 1 to 2 grains in coſtiveneſs. The doſe of its tincture is from 1 to 2 drams. Where too powerful, its antidote is an alkali.

DXXXVII.

Caryophyllus.

Cal. ſuperus, bacca 1-ſperma coronata.

Caryophyllus Aromaticus (*Cloves*).

The flowers, with the immature pericarpium, are the parts uſed. Their taſte is aromatic, acrid, and pungent, with a grateful fragrant penetrating ſmell. Their virtue reſides in a volatile and acrid reſinous principle. They are ſtimulant, calefacient, ſialogogue, ſtomachic, and emmenagogue. They are employed in dyſpepſia, lingual palſy, and toothach. The doſe is from a ſcruple to a dram in powder or infuſion, watery or vinous. The volatile oil is their only preparation.

DXXXVIII.

Tilia.

Capſ. 5-locularis coriacea, 1 ſperma, cal. deciduus.

Tilia Europea (*Common Lime Tree*).

The flowers are uſed, which have a fragrant ſmell, and are antiſpaſmodic. The infuſion and diſtilled water are given in ſpaſms.

DXXXIX.

Myriſtica Aromatica (*Nutmeg*).

The fruit, and ſkin of it called mace, are the parts uſed. It poſſeſſes a pleaſing bitteriſh aromatic ſtyptic taſte, with a fragrant ſmell. Its virtue reſides in a volatile oil, and fixed aroma. It is ſtimulant, ſtomachic, carminative, obſtipating in a large doſe, hipnotic, and ſedative. It is exhibited in dyſpepſia, flatulence, colic, diarrhæa, and ſtrangury. The doſe is from 4 grains to 20. The preparations are the candied fruit, a volatile oil, and alſo a fixed oil.

DXL.

Ciſtus.

Capſ. ſubrotunda, cal .5-phylli foliat. 2 minor.

Ciſtus Creticus (*Gum Ciſtus*).

The exudation from the leaves is the part uſed. It is a bitter reſin, of a ſtimulant and aromatic nature, uſed for plaſters and fumigations, having a pleaſing ſmell.

DXLI.

Thea (*Tea*).

Cal. 5, ſ. 6 phyllus, petala 6, ſ. 9, capſ 3 locul ſem. ſolitaria.

Thea Bohea (*Broad and Narrow Leaved Bohea*).

The leaves of this ſhrub, the parts uſed, have a ſlightly aſtringent taſte, and grateful ſmell. In their qualities they are aſtringent, and hurtful to the relaxed.

DXLII.

Thea Viridis (*Green Tea*).

The leaves have the ſame taſte as the former, with a more fragrant and grateful ſmell.

DXLIII.

Bixa.

Cal. 5-dentatus, cor. 5 petala duplex, capſ. 2-valvis.

Bixa Orellana (*Anotto*).

The root and feculum of the capſules is the part uſed. The feculum is red, with a ſlight bitter and ſtyptic taſte. The quality of the root is diuretic. Both parts are uſed as a dye.

DXLIV.

2. Of the plants that have two ſtiles, or digynia, the only medical article is:

DXLV.

Pogonia.

Cal. 5-phyllus, cor. 5 petala, capſ. polyſperma, ſem. colorata.

Pæonia Officinalis (*Common Peony*).

The root, flower, and ſeed, are all uſed. The recent root has a rank ſtinking ſmell; when dried, it has a farinaceous and ſomewhat ſtyptic taſte. It is narcotic, antiſpaſmodic, and aſtringent. It is employed in epilepſy and intermittents.

DXLVI.

3. Of the plants having three ſtiles, or trigynia, the articles are:

DXLVII.

Delphinium.

Cal. nullus, cor. 5 petala, ſupremo
cornuto nectar, 2-fidum, ſeſſile.

Delphinium Staphiſagria (*Stave-Acre*).

The ſeeds are the part uſed. They have a bitter acrid nauſeous taſte. Their virtue is draſtically cathartic, anthelminthic, and a ſpecific againſt vermin. They are uſed chiefly in the form of ointment with this laſt view.

DXLVIII.

Aconitum.

Cal. nullus, cor. 5 petala. ſupremo
galateo nectar, 2 pedicillata.

Aconitum Anthora (*Aconite*).

The root of this poiſonous plant poſſeſſes an acrid bitter taſte. It is cathartic and anthelmenthic.

DXLIX.

Aconitum Cammarum (*Purple Wolfsbane*).

The leaves and plant poſſeſs an acrid taſte and nauſeous ſmell. Its virtue reſides in an acrid principle. It is ſudorific and diuretic. It is employed in chronic rheumatiſm, in amauroſis, and obſtinate ulcers.

DL.

Aconitum Napellus.

This ſpecies is only weaker than the former. Its antidote is the ranulculus thora.

DLI.

4. Of the plants that have four ſtiles, or tetragynia, there is only one medical article:

DLII.

Cimicifuga.

Cal. 4 phyllus, cor. nectariis, 4 urcedatis, capſ. 4 ſem. ſynamoſæ.

Cimicifuga Fœtida.

This Siberian plant has a bitter taſte and rank ſmell. It is antiſpaſmodic and reſolvent. It is employed in ſpaſms and bronchocele.

DLIII.

5. Of the plants that have five ſtiles, or pentagynia, the medical articles are:

DLIV.

Aquilegia (*Colombine*).

Cal. nullus, cor. 5 petala nectaria, 5 inferne cornuta

Aquilegia Vulgaris (*Common Colombine*).

The plant, flowers, and ſeed, are all uſed. It is of a poiſonous nature, the ſeeds are mucilaginous and oily. The plant is employed in jaundice and cutaneous diſeaſes.

DLV.

Nigella.

Cal. nullus, cor. 5 petala. nectaria, 8 ſuperne, 2 labiata.

Nigella Sativa (*Small Fennel Flower*).

The ſeeds of this poiſonous plant are the parts uſed. Their taſte is acrid and aromatic, with a fragrant ſmell. Their virtue reſides in a volatile and fixed oil. They are ſtimulant, lactiferous, errhine, ſialogogue, emmenagogue, and anthelminthic.

DLVI.

5. Of the order of polygynia, or plants having many ſtiles, the articles are numerous.

DLVII.

Illicium.

Cal. 6 phyllus, cor. pet. 27, capſ. 1, ſpermæ in orbem.

Illicium Aniſatum (*Indian Aniſe*).

The fruit and ſeed of this Chineſe tree are the parts uſed. They poſſeſs an aromatic ſweet taſte, like aniſe, with a fragrant aromatic ſmell. They are ſtimulant, ſtomachic, carminative, and expectorant. They are employed in atonic diſeaſes of the lungs, and are often mixed in infuſion with tea, to render it more grateful. The forms are, the powder in a doſe of 30 grains, or the infuſion in the proportion of a dram to 1 lb. of fluid.

DLVIII.

Anemone.

Cal. nullus, cor. 6 petala, ſem. plurima.

Anemone Hepatica.

The root and flowers are both uſed, which are inſipid and inodorous.

DLIX.

Anemone Nemoroſa (*Wood Anemone*).

The plant and recent flowers are both uſed. In its nature it is poiſonous. Its virtue reſides in a volatile acrid principle. Externally, it is employed, in the place of cantharides, in headach, tertian, chronic rheumatiſm, and iſchias.

DLX.

Anemone Pratenſis (*Meadow Anemone*).

The plant is uſed. It is very acrid and poiſonous; and its virtue reſides in an acrid principle. It is corroſive, rubefacient, reſolvent, and diuretic. The inſpiſſated juice is uſed in amauroſis and palſy, from 1 to 8 grains; and in infuſion, in the proportion of 1 and 3 drams to 1 lb. of fluid. Externally, this plant is applied in ulcerations, herpes, and caries.

DLXI.

Clematis.

Cal. nullus, cor. 4. petala, ſem. plurima ariſtata.

Clematis Recta (*Upright Virgin's Bower*).

The plant and flowers are uſed. Their virtue reſides in an acrid principle. They are corroſive, veſicant, and diuretic. They are employed in venereal exiſtoſes; and the powder is externally applied to venereal, phagedenic, and cancerous ulcers. The doſe of the extract is from 1 to 3 grains; and the infuſion is made in the proportion of

2 and 3 drams of the dried plant to 1 lb. of fluid.

DLXII.

Clematis Vitalba (*Common Virgin's Bower*).

The leaves are the part uſed. They poſſeſs an acid ſweetiſh ſtyptic taſte. Their virtue reſides in an acrid principle. They are aſtringent, corroſive, and diuretic. The infuſion is uſed in dropſy; and the juice, mixed with oil, is an application in itch.

DLXIII.

Ranunculus.

Cal. 5 phyllus, cor. 5 petala. ſem. plurima, cor petala. ungue nectarif.

Ranunculus Abortivus.

The leaves are the part uſed. They are acrid and veſicant, and employed in ſiphylis.

DLXIV.

Ranunculus Flammula.

The leaves and young ſtalks are here uſed, which are acrid and corroſive. They are employed externally in chronic rheumatiſm, and to the wriſts to ſuſpend the attack of intermittents. The diſtilled water is cauſtic. Several other ſpecies of ranunculus agree with this in their qualities, as alpinus, arvenſis, bulboſus, illyricus, lingua, ſceleratus thora.

DLXV.

Ranunculus Ficaria (*Leſſer Celadine*).

The recent root of this perennial plant is uſed as a coſmetic. In its nature it is inſipid.

DLXVI.

Heleborus.

Cal. nullus, cor. 5 petalo perioſteus,
polyſpermæ nectaria plura.

(*Heleborus Fœtidus*) *Fœtid Hellebore.*

The plant, leaves, and expreſſed juice, are all uſed. Their taſte is acrid, bitter, and nauſeous, with a rank ſmell. They are emetic, cathartic, anthelminthic, and deobſtruent. They are employed in aſthma, hypochondriaſis, hyſteria, abdominal obeſity, and worms.

DLXVII.

Heleborus Niger (*Black Hellebore*).

The fibres of the root are the parts uſed. Their taſte is bitteriſh and acrid, with a fœtid nauſeous ſmell. Their virtue reſides in an acrid principle, united with a mucilage and reſin. In their recent ſtate they are draſtically cathartic, diuretic, emmenagogue, anthelminthic, and deobſtruent. They are employed in amenorrhœa, melancholy, mania, cutaneous diſeaſes, quartans, dropſy, worms, and itch. The forms of uſing it are, the powder in a doſe of 3 to 30 grains; the infuſion, in a proportion of 3 drams to 1 lb. of fluid; the tincture, in doſes of 1 dram; and extract, from 4 grs. to half a dram.

DLXVIII.

Heleborus Viridis (*Green Hellebore*).

The taſte is more bitter, acrid, and nauſeous than the former; in their qualities they agree.

DLXIX.

CLASS XIV. DIDYNAMIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers furniſhed with four ſtamina, two of which are larger than the reſt, and form their leading character. This claſs comprehends two orders.

DLXX.

1. The firſt is the gymnoſpermia, or plants that have naked ſeeds; the medical articles of which are:

DLXXI.

Teucrium.

Corollæ lab. ſuperius, nullum ſed bipartitum.

Teucrium Chamydrys (*Common Germander*).

This perennial plant has a bitter aromatic taſte, with an aromatic fragrant ſmell. It is ſtimulant, emmenagogue, and diſcutient. It is employed in infuſion in intermittents, gout, and chloroſis.

DLXXII.

Teucrium Chamæpitys (*Ground Pine Germander*).

This annual ſpecies has the ſame bitter aromatic taſte, with a reſinous ſmell. It is ſtimulant, ſtomachic, emmenagogue, and diſcutient.

The infuſion is uſed in chronic rheumatiſm and gout, in the proportion of 2 or 3 drams to 1 lb. of fluid.

DLXXIII.

Teucrium Criticum.

The herb and tops are the parts uſed. Their qualities are ſtomachic, and they are employed in jaundice.

DLXXIV.

Teucrium Marum (Cat Thyme).

The ſame parts are uſed as in the former ſpecies. They poſſeſs an acrid bitter taſte, with a fragrant camphorated ſmell. Their virtue reſides in a volatile camphorated reſin. They are nervine, antiſpaſmodic, cortical, errhine, and diſcutient. They are exhibited in ſpaſms, hyſteria, cachexy, ſapoſe diſeaſes, want of ſmell, and aſthma. Their forms are that of powder, in 20 or 30 grains; and infuſion, in the proportion of 2 ounces, or 3, to a lb. of fluid.

DLXXV.

Teucrium Scordium (Water Germander).

This perennial plant is all uſed Its taſte is aromatic, bitter, and acrid. Its qualities are ſtomachic, ſudorific, anthelminthic, and diſcutient. It is employed, externally, in the form of a venous or ocetous infuſion in ecchyma, gangrene, and ulceration.

DLXXVI.

Satureja.

Corolla laciniis ſubæqualibus, ſtamina remota.

Satureja Hortenſis (Summer Savory).

The plant is all uſed. It has an aromatic taſte and fragrant ſmell. It is nervine, ſtimulant, emmenagogue, ſtomachic, and aphrodiſiac. It is chiefly employed in anorexia and impotence.

DLXXVII.

Hyſſopus.

Filamenta, diſtantia, recta; cor. ringens.

Hyſſopus Hortenſis (Common Hyſſop).

This plant has a bitter and ſomewhat aromatic taſte, with a nidorous ſmell. Its virtue reſides in a volatile oil, with a bitter extractive principle. It is ſtomachic, greatly ſtimulant, expectorant, and reſolvent. Its infuſion is employed in catarrhal affections of the lungs, and in ecchymomum.

DLXXVIII.

Nepeta.

Corollæ lab. inferus crenatum; faux margine reflexo.

Nepeta Cataria (Common Cat Mut).

This perennial plant has a nauſeous bitter taſte, and a goatiſh ſmell, very agreeable to the ſaline tribe. It is nervine, emmenagogue, and anthelminthic. It is exhibited in hyſteria and chloroſis.

DLXXIX.

Lavandula.

Corolla reſupinata.

Lavandula Spica (Common Lavender).

The flowers are the part uſed. They poſſeſs a bitter aromatic taſte, and fragrant ſmell, Their virtue reſides in a copious volatile oil. They are ſtimulant, nervine, and reſolvent. They are employed in palſy, aphonia, and baldneſs. Their preparations are in volatile oil, water, ſpirit, and compound tincture.

DLXXX,

Mentha.

Filamenta diſtantia, recta; cor. ſubæqualibus.

Mentha Auricularis.

This Oriental ſpecies is fragrant and bitter. In its powers it is deobſtruent, and employed againſt tumors.

DLXXXI.

Mentha Cervina (Hyſſop-Leaved Mint).

This ſpecies poſſeſſes an aromatic taſte and fragrant ſmell.

DLXXXII.

Mentha Criſpa (Curled Mint).

The leaves and plant are both uſed. They poſſeſs an aromatic taſte, with a fragrant ſmell. Their virtue reſides in a volatile oil. They are ſtimulant, carminative, emmenagogue, antiphrodiſiac, and reſolvent. They are employed in headach, in hyſteria, anarexia, vomiting, cholic, chincough, and ſilynaſis. Externally, in pains of the joints from ſpaſms, in milk coagulations in the breaſt, in ecchymome, and in cold tumors. The proportion of the infuſion is an ounce to 1 lb. of fluid. The preparations of this plant are in volatile oil, ſpirit, water, conſerve, and ſyrup.

DLXXXIII.

Mentha Piperita (Peppermint).

This perennial ſpecies has an acrid aromatic taſte, with a ſenſe of coldneſs, and a fragrant ſmell. Its virtue reſides in a volatile camphorated oil. Its qualities are the ſame as the former ſpecies, and it is employed againſt the ſame diſeaſes, and under the ſame forms.

DLXXXIV.

Mentha Pulegium (Penny-Royal Mint).

It is much the ſame as the mentha criſpa.

DLXXXV.

Mentha Viridis (Spear Mint).

This ſpecies alſo reſembles the mentha criſpa.

DLXXXVI.

Glecoma.

Antherarum paria cruciata.

Glecoma Hederacea (Ground Ivy).

This perennial plant poſſeſſes a bitteriſh and acrid taſte. It is expectorant and tonic. The infuſion in milk, or water, is employed in the end of catarrh, and the ulcerated ſtage of conſumption.

DLXXXVII.

Betonica.

Corollæ lab ſuperius planum, aſcendens, tubo cylindrico; ſtam. longitudine faucis.

Betonica Officinalis (*Wood Betony*).

The plant, flowers, and root, are all uſed. They poſſeſs a nidorous ſickly ſmell. They are nervine, and but little employed.

DLXXXVIII.

Marrubium.

Calyx 10-ſtriatus; corollæ lab. ſuperius fornicatum.

Marrubium Vulgare (*Common White Hoarhound*).

The plant and recent juice are both uſed. Its taſte is bitteriſh, ſaline, and unpleaſant, with a rank ſmell. It is expectorant, emmenagogue, and anthelminthic. It is employed in moiſt aſthma, in jaundice, chloroſis, abdominal fullneſs, and mercurial ptyatiſm.

DLXXXIX.

Calyces Bilabiati.

Origanum.

Strobilus calyces colligens.

Origanum Creticum (*Dittany of Crete*).

The ſpicæ of this perennial plant are the parts uſed. Their taſte is acrid, aromatic, and bitter. Their ſmell is grateful and fragrant. They are ſtimulant, emmenagogue, and reſolvent. It is employed, in the form of a volatile oil, in toothach, and alſo in the baths.

DXC.

Origanum Dictamnus (*Dittany of Candia*).

The leaves are the part uſed. They poſſeſs an aromatic warm taſte, with a fragrant ſmell. Their virtue reſides in a volatile oil. They are ſtimulant, nervine, ſtomachic, emmenagogue, and reſolvent.

DXCI.

Origanum Marjorana (*Sweet Marjoram*).

This plant has an aromatic taſte, with a fragrant grateful ſmell. Their virtue reſides in a volatile oil. They poſſeſs the ſame qualities as the former ſpecies, and are employed in anaſmia and coryza. Their preparation is a volatile oil.

DXCII.

Origanum Vulgare (*Common Marjoram*).

The taſte of this plant is aromatic, bitteriſh, and ſomewhat acid. The ſmell is fragrant and grateful. Its virtue reſides in a volatile oil. It is ſtimulant, nervine, and reſolvent. It is employed in cough, pulmonary conſumption, chloroſis, and œdema. It is frequently uſed in broths, and as a ſubſtitute for tea. Its preparation is a volatile oil.

DXCIII.

Thymus.

Calyx fauce villis clauſus.

Thymus Serpyllum (*Wild Thyme*).

This plant has a taſte ſomewhat ſtyptic, with a fragrant aromatic ſmell. Its virtue reſides in a volatile oil. It is ſtimulant, nervine, ſtomachic, and reſolvent. It is employed in headach after a debauch, and in uterine baths. Its preparation is a volatile oil.

DXCIV.

Thymus Vulgaris (*Garden Thyme*).

This plant has a fragrant aromatic ſmell, and its virtue reſides in a volatile oil. It is nervine, ſtomachic, emmenagogue, carminative, and reſolvent. It is employed in leucophlegmoſia, coryza, and epiphora.

DXCV.

Meliſſa.

Cal. angulatus ſtriofus, labio ſuperiore aſcendente.

Meliſſa Calamintha (*Mountain Balm*).

This plant poſſeſſes a ſlight aromatic taſte, with a weak ſmell of citron. It is ſtomachic, expectorant, and reſolvent. It is employed in aſthma.

DXCVI.

Meliſſa Officinalis (*Common Balm*).

This perennial plant has an aromatic taſte, with a fragrant ſmell like citron. Its virtue reſides in a volatile oil. It is gently ſtimulant, nervine, antiſpaſmodic, and emmenagogue. It is given in hyſteria, palpitation, chloroſis, and amenorrhæa. Its preparations are an infuſion, water ſpirit, and volatile oil.

DXCVII.

Melittis.

Cal. tubo corolla amplior; corollæ lab. ſuperius planum integrum, antheræ cruciatæ.

Melittis Meliſſophyllum (*Baſtard Balm*).

The leaves have a bitteriſh taſte, and a fragrant pleaſing ſmell. They are employed in amenorrhæa and nephritis.

DXCVIII.

Ocymum.

Corolla reſupinata, filamenta bina baſi proceſſu.

Ocymum Baſilicum (*Common Sweet Baſil*).

The plant and ſeeds are both uſed. The former has an aromatic taſte and fragrant ſmell, the latter are mucilaginous. They are nervine, and employed in vomiting and rheumatiſm.

DXCIX.

2. Of the Angioſperma, or ſuch plants as have ſeeds in a pericarpium, the medical articles are:

DC.

Anthirrinum.

Capſ. 2 locularis; cor. perſonata ſubtus nectario prominente.

Anthirrinum Linaria (*Yellow Toad-Flax*).

This biennial plant has a bitteriſh taſte, with a rank reſinous ſmell. It is diuretic, eccoprotic, alterative, and reſolvent. It is employed in jaundice and dropſy; and externally, in ophthalmia and ſwelling of the anus. Its preparation is an ointment.

DCI.

Scrophularia.

Capſ 2 locularis; cor reſupinata lab. ſegmento intermedia interno.

Scrophularia Aquatica (*Water Fig-wort*).

The leaves of this perennial plant have a bitter taſte, with a weak fœtid ſmell. Its virtue is ſtomachic and carminative, and it correcls the nauſeous taſte of ſenna in infuſion.

DCII.

Scrophularia Nodoſa (*Knobby-rooted Figwort*).

The root of this perennial plant poſſeſſes a bitteriſh nauſeous taſte, with a rank fœtid ſmell, which becomes diſſipated by drying. It is carminative, anthelminthic, and ſudorific. It is employed in ſcrofula, ſwelling of the anus, itch, and cynanche.

DCIII.

Digitalis.

Capſ. 2 locularis; cor. campan. ſubtus ventric. ſtam. declinata.

Digitalis Purpurea (*Purple Fox-Glove*).

The leaves of this biennial plant poſſeſs an acrid bitter nauſeous taſte. They are emetic, draſtically cathartic, and diuretic. They are employed in hydrothorax, dropſy, gravel, epilepſy, and mania; from venous effuſion in dyſury, pulmonary conſumption, and ſcrofula.

This medicine requires a very cautious uſe; in powder, from 1 grain to 3 or 4 is the doſe; in infuſion, the proportion is an ounce to one pound of fluid. Its preparation is a ſyrup.

DCIV.

Linnæa.

Bacca 3-locul. ſicca; cor. campanul.
cal. ſuperus.

Linnæa Borealis (*Two Flowered Linnæa*).

This plant has a bitteriſh and ſlightly ſtyptic taſte. The flowers have a fragrant ſmell. Its qualities are ſomewhat aſtringent and diuretic. It is employed in chronic rheumatiſm and itch. Its form is an infuſion in milk and water.

DCV.

Seſamum.

Capſ. 2-locularis; cor. campanul.
inæqualis; rudim. filamenti 5ti.

Seſamum Orientale (*Oriental Seſamum*).

The ſeeds of this annual plant are oily and emollient. They are employed in pains, pruritus, maraſmus, and phlegmon.

DCVI.

Avicennia.

Capſ. 1 locul coriacea; cor. labio
ſuperiore quadrata.

Avicennia Tomentoſa (*Oriental Anacordium*).

The kernels and juice of the pulp are uſed.

The former are ſweet and oily, the latter very acrid and corroſive. Hence it is uſed, mixed with lime, for imprinting indelible characters on ſilk and linen.

DCVII.

Bignonia.

Capſ. 2-locularis; cor. campanulata, ſem. alata, imbricata.

Bignonia Ophthalmica.

The root and expreſſed juice are uſed in inflammation of the ocular membranes, in the quantity of a drop or two inſerted every morning.

DCVIII.

CLASS XV. TETRADYNAMIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers furniſhed with ſix ſtamina, two of which are ſhorter than the reſt. The flowers, alſo, of this claſs, have a particular ſtructure. Its orders are two.

DCIX.

1. The Siliculoſa, comprehending ſuch plants whoſe pericarpium is a ſilicula, the medical articles are:

DCX.

Lepidium.

Silic. cordata; valvulis acute carinatis.

Lepidium Sativum (Garden Creſſes).

The recent plant and ſeeds are uſed. Their virtue depends on a mild acrid principle. They are diuretic and antiſcorbutic. They are employed in ſcurvy, dropſy, and ſome cutaneous diſeaſes.

DCXI.

Cochlearia.

Silic. cordata; valvulis obtuſis, gibbis.

Cochlearia Armoracia (*Horſe Radiſh*).

The recent root and expreſſed juice are both uſed. Their virtue reſides in an acrid volatile principle. They are emetic, diuretic, antiſcorbutic, and rubefacient. They are employed in cachexy, quartan fever, ſcurvy, dropſy, pituitous aſthma, palſy, chronic rheumatiſm, and paraphonia. The recent root is given raſped down to two ſcruples for a doſe; the expreſſed juice, in half a dram in a proper vehicle. The preparations of this plant are, the juice, diſtilled water, ſpirit, and infuſion watery and vinous.

DCXII.

Cochlearia Officinalis (*Common Scurvy Graſs*).

The recent plant and juice are both uſed. Their taſte is acrid, and their virtue reſides in a volatile acrid principle. They are diuretic, antiſcorbutic, and alterative. Both are employed in ſcurvy and cachexy. Their preparations are, the conſerve, which is given in a doſe from one to two drams; the juice, from one to three ounces.

DCXIII.

2. The ſecond order, or ſiliquoſæ, comprehends

thoſe plants whoſe pericarpium is a ſiliqua, and of this order the medical articles are:

DXCIV.

Raphanus.

Siliqua articulata.

Raphanus Sativus (*Garden Radiſh*).

The recent root and juice are uſed. They poſſeſs an acrid principle. They are ſtimulant, diuretic, reſolvent, and rubefacient. The expreſſed juice is employed in ſcurvy, aſthma, hoarſeneſs, and iſchuria.

DCXV.

Eryſimum.

Siliqua tetragona.

Eryſimum Alliuria (*Stinking Hedge Muſtard*).

This plant has an alliaceous ſmell and bitter taſte. An acrid principle diſtinguiſhes it. It is diuretic, errhine, and antiſcorbutic. It is uſed in aſthma and putrid ulcers.

DCXVI.

Eryſimum Barbarea Common (*Winter Hedge Crop*).

The leaves of this perennial plant have a taſte bitter and ſomewhat acrid, with an herbaceous ſmell. Their qualities are antiſcorbutic.

DCXVII.

Chieranthus.

Siliqua germine utrinque glandula notato.

Chieranthus Cheiri (*Wild Wall Flower*).

The flowers poſſeſs a yellow colour and fragrant ſmell. Their virtue reſides in a volatile principle. They are nervine and narcotic, and uſed againſt pains.

DCXVIII.

Braſſica.

Glandulæ 2 intra ſtamina breviora; 2 extra ſtamina longiora.

Braſſica Oleracea (*Cabbage*).

The leaves are watery and inodorous. They are uſed, boiled or ſalted, under the name of ſawer krant, in ſcurvy. The decoction is employed in hoarſeneſs, cough, ſcurvy, and burns. In the form of cataplaſm they are applied to milk breaſts.

DCXIX.

Braſſica Eruca.

The ſeeds and leaves are both uſed. They have an acrid hot taſte, and as penetrating as muſtard. Their virtue reſides in a volatile principle. They are conſidered as aphrodiſiac, and employed in lingual palſy.

DCXX.

Braſſica Rapa (*White Turnip*).

The recent root and expreſſed juice are uſed. Their virtue reſides in a ſaccharine and mucilaginous principle. They are flatulent and diuretic. The expreſſed juice is employed in conſumption, aſthma, and ſtrangury, and alſo in toothach and aphthæ. In the form of cataplaſm it is applied to tumors and the gout.

DCXXI.

Cardamine.

Siliqua dehiſcens; valvulis revolutis.

Cardamine Pratenſis (*Ladies Smock*).

The petals and leaves are uſed. Their virtue reſides in a ſlightly acrid principle. The petals are antiſpaſmodic, the leaves antiſcorbutic. The former are employed in convulſion and choria, in doſes from a ſcruple to half a dram.

DCXXII.

Siſymbrium.

Siliqua dehiſcens; valvis rectiuſculis; cal. patulus.

Siſymbrium Naſturtium (*Common Water Creſſes*).

The recent plant and expreſſed juice are uſed. They poſſeſs an acrid bitteriſh taſte when chewed, ſhewing a pungency at laſt. Their virtue reſides in an acrid principle. They are diuretic and antiſcorbutic. They are uſed in ſcurvy and obſtipation. The juice is given in a doſe of two ounces.

DCXXIII.

Siſymbrium Sophia (*Flix Weed*).

The ſeeds of this annual plant are acrid and warm, and diſplay an acrid principle. They are anthelminthic.

DCXXIV.

Siſymbrium Tenuifolium.

This ſpecies is the ſame as the firſt.

DCXXV.

Sinapis.

Siliqua dehiſcens.

Sinapis Alba (*White Muſtard*).

The ſeeds and their flour are uſed, the virtue of which reſides in an acrid principle, with a volatile and fixed oil. They are rubefacient and ſtimulant, and externally employed in cataplaſms.

DCXXVI.

Sinapis Nigra (*Common Black Muſtard*).

The ſame parts are uſed as in the former, and they are the ſame alſo in quality, but more acrid; hence ſtimulant, ſlightly emetic, diuretic, and cathartic: externally, rubefacient and veſicatory. Internally, they are uſed in dyſpepſia, in moiſt aſthma, in obſtipation, ſcurvy, dropſy, intermittents, and palſy: externally, in herpes and chronic rheumatiſm.

DCXXVII.

Crambe.

Siliqua decidua, globoſa, ſicco-baccata; filamenta 4-apice bifurca.

Crambe Orientalis (*Colewort*).

The recent root of this perennial plant is uſed, whoſe virtue reſides in an acrid principle, and whoſe qualities are antiſcorbutic.

DCXXVIII.

CLASS XVI. MONADELPHIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers, furniſhed with one ſet of united ſtamina. This claſs conſiſts of nine orders.

DCXXIX.

The 1*ſt* of theſe that contain any medical article is the decandria, comprehending ſuch plants as have 10 ſtamina.

DCXXX.

Geranium.

Monogyna; capſ. 5 cocca. roſtrata.

Geranium Moſchatum.

This annual plant has an ambroſial ſmell, and derives its name from its muſky flavor.

DCXXXI.

Geranium Robertianum (*Herb Robert*).

This plant has a ſaltiſh and ſomewhat ſtyptic taſte, with a goatiſh ſmell. It is ſomewhat aſtringent and repellent of the milk. It is employed in hinoluria and profluvia; externally, in bubo, and ulcers of the valva and breaſts.

DCXXXII.

2. The next order is the dodecandria, or ſuch plants as have 12 ſtamina.

DCXXXIII.

Pentapetes.

Monogyna; capſ. 5-locularis, polyſperma; ſtam. 5-elongata, colorata.

Pentapetes Muhucanda.

The flowers are the part uſed, which are of a mucilaginous quality; and their recent infuſion is employed in gonorrhœa; and the dried powder as a ſnuff in nervous headach.

DCXXXIV.

3. The laſt order of this claſs is the polyandria, or ſuch plants as have many ſtamina.

DCXXXV.

Althæa.

Polygyna; cal. exter. 9-fidus; arilli 1-ſpermi, verticillati.

Althæa Officinalis (*Marſh Mellow*).

The root and plant are both uſed. They are mucilaginous and inſipid, and are lubricating and emollient. They are employed in cough, hoarſeneſs, and ſtrangury; externally, in the form of glyſter or cataplaſm in teneſmus, phlegmon, and pain. Their preparations are a decoction, ſyrup, paſte, and ointment.

DCXXXVI.

Alcea.

Polygyna; cal. exter. 6-fidus, arilli 1-ſpermi, plures.

Alcea Roſea (*Common Hollyhock*).

Its quality is fatuous and mucilaginous, hence lubricating and emollient. Their infuſion is uſed in the form of gargle in cynanche.

DCXXXVII.

Malva.

Polygyna; cal. exter. 3-phyllus, arilli 1-ſpermi, verticillati, plures.

Malva Rotundifolia (*Round Leaved Mallow*).

The root and plant are both are uſed. They fatuous and mucilaginous; hence they are lubricating, demulcent, and relaxing. They are employed in phlegmon, ſtrangury, and cough.

DCXXXVIII.

Hibiſcus.

Mynogyna; cal. exter. 8-fidus; capſ. loculis polyſpermis, coadnatis.

Hibiſcus Abelmoſchus (*Target-leaved Hebius*).

The ſeeds, the part uſed, have a peculiar muſky ſmell, and are chiefly uſed as a perfume. They have been employed in tenia.

DCXXXIX.

CLASS XVII. DIADELPHIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers, marked with two ſets of united ſtamina. The orders are four.

DCXL.

1. Hexandria, or ſuch plants as have 6 ſtamina.

DCXLI.

Fumaria.

Cal. 2 phyllus; cor. ring. baſi gibboſa nectarifera; filam. antheris 4.

Fumaria Officinalis (*Common Fumitory*).

The recent plant and juice are uſed. They poſſeſs a taſte purely and intenſely bitter, without any ſmell. They are ſtomachic and antiacid. They are exhibited in dyſpepſia, cutaneous diſeaſes, cachexy, and abdominal obeſity. The doſe of the juice is 2 ounces; of the extract, from 1 to 2 drams. The preparations are, an extract, conſerve, ſyrup, and tincture.

DCXLII.

2. Octandria, or ſuch plants as have 8 ſtamina.

DCXLIII.

Polygala.

Cal. 2 laciniæ alæformes, cor. vex. cylindricum.

Polygala Amara (*Bitter Milkwort*).

The root and leaves are uſed. The root is bitteriſh and ſweet, the leaves intenſely bitter. Their qualities are ſtomachic. The root is employed in pectoral diſeaſes combined with weakneſs, in chincough, and pulmonary conſumption. The doſe is half a dram of the powder; the decoction of the root is in the proportion of two ounces to two lbs. of fluid reduced to one.

DCXLIV.

Polygala Senega (*Rattle Snake Root*).

The root and its bark are the parts uſed. Their taſte is acid, with an acrimony and ſlight aroma, towards the end becoming intenſely bitter and pungent. Their virtue reſides in a reſinous principle. They are ſomewhat emetic, cathartic, ſudorific, diuretic, expectorant, ſialagogue, and deobſtruent. They are exhibited in dropſy, rheumatiſm, gout, pectoral diſeaſes from weakneſs, bites of ſerpents, conſumption, and pleuriſy. The doſe of the powder is from 10 to 30 grains; of the decoction the proportion is a ſcruple or half a dram to 1 lb. of fluid. The preparations are, the decoction, vinous infuſion, and tincture.

DCXLV.

3. Decandria, or ſuch plants as have ten ſtamina.

DCXLVI.

Pterocarpus.

Legum foliaceum, ſtamina bina triantheia.

Pterocarpus Draco (*Dragon's Blood*).

The concrete juice and reſin are uſed. It is red, ſtyptic, and without ſmell. Its qualities are thoſe of an aſtringent, and it is employed in profluvia, diarrhæa, and hemorrhages.

DCXLVII.

Pterocarpus Santalinus (*Red Sanders*).

The wood is the part uſed, which forms a deep red paint.

DCXLVIII.

Spartium.

Filamenta adherentia germini, ſtigma adnatum, villoſum.

Spartium Scoparium (*Common Broom*).

The plant, tops, and ſeed, are all uſed. They poſſeſs a bitter nauſeous taſte. Their qualities are diuretic and cathartic. They are employed in dropſy. The proportion in decoction is 1 ounce of the tops to 6 ounces of water. The preparations are, an extract, infuſion, and decoction.

DCXLIX.

Geniſta.

Piſtillum deprimens carinam, ſtigma involutum.

Geniſta Canarienſis (*Canary Geniſta*).

The wood and root are the parts uſed. It has a bitteriſh reſinous taſte, with a fragrant roſy ſmell. Its qualities are ſudorific. Its preparation is a volatile oil.

DCL.

Canarienſis Tinctoria.

The plant, flowers, and ſeed, are all uſed. They give a deep yellow colour, are inſipid and inodorous. They are uſed in dropſy.

DCLI.

Ononis.

Legumen rhombeum, ſeſſile, vexillum ſtriatum.

Ononis Arvenſis et Spinoſa (*Thorny, Purple, and White Reſt Harrow*).

The root and plant are both uſed. They poſſeſs a taſte ſomewhat acrid and unpleaſant. They are diuretic, and employed in hernia humoralis, hydrocele, jaundice, and iſchuria. The doſe of the powder is a dram; and the proportion to the decoction is half an ounce to 1 lb. of fluid.

DCLII.

Dolichos.

Vexillum baſi callis duobus.

Dolichos Ureno (*Gooſe Itch Dolichos*).

The hairy down is the part uſed. It is anthelminthic, and exhibited againſt the lumbrici, in a doſe of from 1 to 4 drams, in ſyrup or mucilage.

DCLIII.

Dolichos Pruriens (*Common Horſe Eye Bean*).

This ſpecies is the ſame in qualities as the former.

DCLIV.

Vicia.

Stylus ſub ſtigmate barbatus.

Vicia Faba (*Common Garden Bean*).

The flowers and ſeed are uſed. The former have a fragrant ſmell, the latter si farinaceous. The flowers are uſed as a coſmetic, and the flour of the ſeeds in cataplaſms.

DCLV.

Glycyrrhiza.

Cal. 2-labiatus, ſuperiore 3-fido.

$$\begin{array}{l}\textit{Glycyrrhiza Glabra}\\ \textit{Glycyrrhiza Echinata}\end{array}\left\{\textit{Common Liquorice.}\right\}$$

The root and expreſſed juice are uſed. The former poſſeſſes a ſweet, bitteriſh, and ſomewhat acrid taſte. Its virtue reſides in a mucilaginous ſaccharine principle. It is demulcent and expectorant. It is generally uſed in infuſion with other ſubſtances. The extract is employed in catarrh, paraphonia, and ſtrangury.

DCLVI.

Geoffræa.

Drupa nucleo ligneo.

Geoffræa Inermis (Baſtard Cabbage Tree).

The bark of this Weſt India tree is the part uſed. It is nauſeouſly ſweet, with a nauſeous ſmell. Its qualities are draſtically cathartic, emetic, and anthelminthic. The decoction is employed in lumbrici and aſcarides; the proportion is an ounce to two lbs. of fluid.

DCLVII.

Geoffræa Surinamenſis (Surinam Baſtard Cabbage Tree).

Its qualities are the ſame as the former, but more efficacious as an anthelminthic. It is uſed alſo in decoction, the proportions being 3 drams to 8 ounces.

DCLVIII.

Indigofera.

Carina utrinque denticulo.

Indigofera Tinctoria (Indigo).

The feculum is the part uſed. It is chiefly remarkable as a dye, though it has been exhibited in diarrhæa, and the lochia in exceſs.

DCLXIX.

Aſtragalus.

Legum 2-loculare, rotundatum.

Aſtragalus Excapus (Hairy podded Milk Vetch).

The root of this perennial plant is remarkable for its antiſiphylitic virtues. It is uſed in decoction in ſiphylis, in the proportion of 2 ounces to 3 lbs. of fluid.

DCLX.

Aſtragalus Tragacantha (*Gum Tragacantha*).

The concrete juice is uſed, which is mucilaginous, and hence lubricating and obtunding. It is exhibited in cough, hoarſeneſs, and ſtrangury.

DCLXI.

Trifolium.

Legum. vix calyce longius, 1 ſ. 2-ſpermum, flores capitati.

Trifolium Melilotus (*Common Melilote Trifoil*).

The flowers and plant are uſed. They poſſeſs an acrid bitter mucilaginous taſte, with a heavy fragrant ſmell. Their virtue reſides in a volatile oil. They are emollient and reſolvent. In the form of cataplaſm they are applied to tumors. Their preparation is a plaſter.

DCLXII.

Trifolium Repens (*White Trifoil*).

The flowers poſſeſs a ſweet ſmell, and are uſed in the gout.

DCLXIII.

Trigonella.

Vexillum alæque patentes quaſi tri-petalæ, carina minuta.

Trigonella Fœnum Græcum (*Common Fenu-Greek*).

The ſeeds and flour are uſed. Their taſte is bitteriſh, and their ſmell fragrant. They are farinaceous, mucilaginous, emollient, and lubricating in their qualities. They are uſed in dyſentery, diarrhœa, and ophthalmia; externally, the flour is formed into cataplaſms.

DCLXIV.

CLASS XVIII. POLYADELPHIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers furniſhed with many ſets of ſtamina. The flowers have no particular character, and the orders are four.

DCLXV.

1. The *1ſt* order is the pentandria, or ſuch plants as have five ſtamina in each ſet.

DCLXVI.

Theobroma.

Cal. 3-phyllus, cor. 5-petala, nectariis 5. ſtam. 5. antheris 3. piſtil. 3.

Theobroma Cacao (*Chocolate Nut*).

The fruit, and concrete oil from it, are the parts uſed. In its quality it is oily, but with little tendency to rancidity. It is demulcent, lubricating, and nutrient. It is uſed in tabes, aſthenia, and ſwelling of the anus. Its preparation, or fixed oil, is termed chocolate.

DCLXVII.

2. The 3*d* order of this claſs is the icoſandria, or plants having 12 ſtamina; for in the 2*d* order, no medical articles occur.

DCLXVIII.

Citrus.

Cal. 5-dentatus, cor. 5-petala, ſtam. 20 in cylindrum paſſim connata, piſtill. 1. bacca locularis pulpa veſicula.

Citrus Medica (Lemon and Lime Tree).

The fruit, juice, and yellow rind, are all uſed. The taſte of the fruit is acid, that of the rind, bitter and aromatic. The qualities of the juice are refrigerant and antiſeptic; of the rind, ſtimulant, and ſtomachic. The juice is ſpecific in ſcurvy, the rind is uſed in dyſpepſia. Its preparations are the juice, volatile oil, expreſſed oil, confection, and citric acid.

DCLXIX.

Citrus Aurantium (Seville and China Orange Tree).

The recent fruit, the rind, the leaves, and flowers, are all uſed. The rind of the leaves and flowers has an aromatic bitter taſte and fragrant ſmell. The juice diſplays an acid ſweet, or bitteriſh ſweet. The virtues of this rind are nervine, ſtimulant, and ſtomachic; the juice is refrigerant. The rind is employed in dyſpepſia, intermittents, and menorrhagia; the leaves in chorea, epilepſy, convulſions, and hyſteria. The rind is exhibited in powder to half a dram, the leaves to a dram and a half. Its preparations are a diſtilled water, a volatile oil of the flowers, a tincture, candy, ſyrup of the rind, and a volatile preſſed oil, termed oil of Bergamotte.

DCLXX.

3. The laſt order of this claſs is the polyandria, comprehending ſuch plants as have many ſtamina in each ſet; the medical articles of which are:

DCLXXI.

Melaleuca.

Cal. 5-partitus, ſuperus, cor. 5-petala, capſ. ſemiveſtita calyce baccato.

Melaleuca Leucadendron (*Cajeput Oil*).

A volatile oil from the leaves is only uſed. Its ſmell is ſtrongly fragrant and aromatic. Its qualities are ſtimulant, antiſpaſmodic, carminative, emmenagogue, and deſtructive of inſects. It is uſed internally in cardialgia and pyroſis, in flatulent colic, and in ſpaſms and palſy; externally, in impotence, ſwelling of the anus, toothach, and lingual palſy. The internal doſe is from 3 to 10 drops.

DCLXXII.

Hypericum.

Cal. 5-partitus inferus, cor. 5-petala, capſ. locularis, ſtili 1, 3. ſ. 5.

Hypericum Perforatum (*Perforated St. John's Wort*).

The flowering tops of this plant are the parts uſed. They poſſeſs a ſtrong heavy ſmell. Their qualities are reſolvent and anthelminthic. Their infuſion is exhibited in pulmonary conſumption, hemoptyſis, hematuria, and worms.

DCLXXIII.

Class XIX. Syngenesia.

This claſs conſiſts of ſuch plants as have compound flowers; and the orders of this claſs are ſix.

DCLXXIV.

1. The firſt order is polygamia æqualis, or ſuch plants as, with compound flowers, have the florets all hermaphrodites; the medical articles of which are:

DCLXXV.

Tragopagon.

Recept. nudum, pap. plumoſ. ſtipitat. cal. ſimplex.

Tragopagon Pratenſe (*Yellow Goat's Beard*).

The root, the part uſed, is lacteſcent and bitteriſh. It is exhibited in cough and ſtrangury.

DCLXXVI.

Lactuca.

Recept. nudum, pappus piloſus, ſtipitatus, cal. imbricat. margine ſcarioſo.

Lactuca Sativa (*Garden Lettuce*).

The plant and ſeed are both of domeſtic uſe, and their qualities are refrigerant.

DCLXXVII.

Lactuca Viroſa (*Strong ſcented Lettuce*).

The plant and juice are both uſed. They have an acrid bitter taſte, and a diſagreeable ſmell. Their virtue reſides in an acrid milky juice. They are ſedative and diuretic. They are employed in dropſy and jaundice. The doſe of the inſpiſſated juice, or extract, is from 1 to 4 drams.

DCLXXVIII.

Leontodon.

Recept. nudum, pap. plumoſ. ſtipitat. cal. imbricat. ſquamis laxis.

Leontodon Taraxacum (*Common Dandelion*).

The root of this perennial plant has its virtue reſiding in a bitter ſaline lacteſcent juice. It is diuretic and deobſtruent. It is employed in jaundice and obſtinate quartans. The proportion of the decoction is 2 ounces to 3 lb.

DCLXXIX.

Hieracium.

Recept. nudum, pappus piloſus, ſeſſilis, cal. imbricat. ovatus.

Hieracium Piloſella (*Mouſe or Hawk-weed*).

This perennial plant has a bitter taſte, and is lacteſcent. Its qualities are aſtringent. It is employed in hernia, diarrhœa, itch, and herpes.

DCLXXX.

Cichorium.

Recept ſub paleaceum, pappus ſub 5-dentatus, cal. calyculatus.

Cichorium Intybus (*Wild Succory*).

The root and plant are uſed. Their virtue is in a milky juice, intenſely bitter. They are deobſtruent, ſtomachic, and diuretic. The decoction is employed in jaundice, dyſpepſia, and abdominal ſwelling.

DCLXXXI.

Cichorium Endivia (Common Endive).

Is a domeſtic vegetable, and in its quality eccoprotic.

DCLXXXII.

Arctium.

Calyx ſquamis apice incurvato-hamoſis.

Arctium Lappa (Common and Woolly-Headed Burdock).

The root and ſeeds are both uſed. The root has a ſweet and ſomewhat auſtere taſte, with a nauſeous ſmell. The ſeeds have a taſte intenſely bitter, diſcolouring the urine. The virtues of the root are diuretic and alterative; of the ſeeds, cathartic. The decoction is uſed in cutaneous diſeaſes, ſiphylis, and gout. Its proportions are an ounce or two to 1 lb. of fluid.

DCLXXXIII.

Carduus.

Calyx ſquamis ſpinoſis ventricoſus, recept. piloſum.

Carduus Marianus (Milk Thiſtle).

The plant and ſeeds are uſed. The ſeeds are oily, the plant bitter. It is employed in cancer.

DCLXXXIV.

Onopordon.

Calyx ſquamis ventricoſus ſpinoſis, recept. favoſum.

Onopordon Acanthum (Cotton Thiſtle).

The recent plant and expreſſed juice are uſed.

They are reckoned, particularly the expreſſed juice, ſpecific in cancer as an external application.

DCLXXXV.

Cinara.

Calyx ſquamis ſquarroſus canaliculat. ſpinoſ.

Cinara Scolymus (*Artichoke*).

The leaves of this domeſtic plant are uſed in dropſy; and the doſe of the juice is from 2 to 3 ounces.

DCLXXXVI.

Carlina.

Calyx radiatus, radiis coloratis.

Carlina Acaulis (*Dwarf Carline*).

The root of this perennial plant has an acrid bitter aromatic taſte, with a ſtrong ſmell. It is ſtimulant, ſtomachic, and ſudorific. It is employed in abdominal ſwellings, cutaneous diſeaſes, and hyſteria.

DCLXXXVII.

Carthamus.

Calyx ſquamis ſquarroſus foliaceis.

Carthamus Tinctorius (*Biflowered Saffron*).

The ſeeds and flowers are uſed. They are of a yellow colour, with a nauſeous taſte. Their qualities are cathartic and diuretic. They are employed in the cough of age, in moiſt aſthma, and in jaundice.

DCLXXXVIII.

Spilanthus.

Recept. nudum, pappus bidentatus,
cal. ſubæqualis.

Spilanthus Acmella (*Balm-Leaved Spilanthus*).

The plant and ſeed are the parts uſed. Their qualities are thoſe of a bitter. They are diuretic and emmenagogue. They are employed in dropſy, iſchury, calculus, and leucorrhæa.

DCLXXXIX.

Eupatorium.

Recept. nudum, pappus plumoſus,
cal. imbricatus, piſt. longiſſima.

Eupatorium Cannabinum (*Hemp Agrimony*).

The plant and root are both uſed. Their taſte is ſtrongly bitter, their ſmell acrid and penetrating. The root is diuretic, cathartic, and emetic. It is exhibited in cachexy, dropſy, and hydrocele.

DCXC.

Santolina.

Recept. paleaceum, pappus nullus,
cal. imbricatus, hemiſphæricus.

Santolina Chamæcypariſus (*Lavender Cotton*).

The leaves and plant have a pleaſing aromatic bitter taſte, with a nidorous ſmell. They are tonic, carminative, and anthelminthic. They are exhibited in leucorrhæa and worms.

DCXCI.

2. The ſecond order of this claſs comprehends ſuch plants as have the florets of the diſk herma-

phrodite, and thoſe of the radius female; the medical articles of which are:

DCXCII.

Tanacetum.

Recept. nudum, papp. ſubmargin. nullus, cor. radii 3-fidæ.

Tanacetum Vulgare (*Common Tanſy*).

The plant, flowers, and ſeeds, are all uſed. It poſſeſſes a bitter aromatic taſte, with a nidorous diſagreeable ſmell. Its virtue reſides in a volatile oil, united with a bitter principle. It is ſtimulant and carminative. The extract is purely bitter and ſtomachic. The ſeeds are anthelminthic and ſudorific. It is employed in extract as well as in a vinous and watery infuſion, in the proportion of an ounce to one lb. The ſeeds, in powder, are given to 1 ſcruple; and 2 drams, or 3, are the proportion to 1 lb. of water in infuſion. The diſeaſes for which it is given are, dyſpepſia, intermittents, chloroſis, leucophlegmatia, dropſy, and hyſteria.

DCXCIII.

Tanacetum Balſamita (*Cort-Mary*).

This ſpecies differs little from the former in taſte, ſmell, or qualities.

DCXCIV.

Artemiſia.

Recept. ſubnudum. papp. nullus, cor. radii nulli.

Artemiſia Abrotanum (*Common Southernwood*).

The plant and tops are uſed. They have an aromatic bitteriſh taſte, with a nidorous ſmell. They are ſtimulant, ſtomachic, emmenagogue, and anthelminthic. They are employed in dyſpepſia, amenorrhæa, and worms; externally, in the form of bath and fomentation; internally, in decoction and infuſion. The proportions of the latter are, 1 ounce to 1 lb. of fluid.

DCXCV.

Artemiſia Abſinthium (Common Wormwood).

The plant and tops are uſed, which have a ſtrong purely bitter taſte, with a nidorous ſmell. Their virtue reſides in a volatile oil and bitter extract. They are ſtomachic, anthelminthic, antiſeptic, and reſolvent. They are employed in dyſpepſia, intermittents, leucophlegmaſia, amenorrhæa, jaundice, tinea, gangrene, and worms. Their preparations are a vinous and watery infuſion, a tincture, extract, volatile oil, and conſerve. Externally, they are uſed in the form of fomentation and cataplaſm.

DCXCVI.

Artemiſia Campeſtris (Field Southernwood).

This ſpecies reſembles the abrotanum.

DCXCVII.

Artemiſia Dracunculus; Artemiſia Glacialis (Silky Wormwood); Artemiſia Maritima (Sea Wormwood); Artemiſia Pontica (Roman Wormwood); Artemiſia Rupeſtris (Creeping Wormwood). All theſe ſpecies differ little from the abrotanum abſinthium, either in taſte, ſmell, or qualities.

DCXCVIII.

Artemiſia Santonica (*Tartarian Southernwood*).

The tops and branches, with the ſeeds, are uſed. Their taſte is acrid and bitter, and their virtue reſides in a volatile oil. They are ſtomachic and anthelminthic, and employed in worms and anorexia. The doſe is from 10 grains to 1 dram in powder; and from 2 to 3 drams is the proportion for the infuſion to 1 lb. of fluid.

DCXCIX.

Artemiſia Vulgaris (*Mugwort*).

The plant and tops are here alſo uſed. They have a bitteriſh taſte, and aromatic ſmell. They are ſtimulant, ſtomachic, and emmenagogue. They are employed in tertian fever.

DCC.

Erigeron.

Recept. nudum, papp. piloſus, cor. radii capillares.

Erigeron Acre (*Blue Erigeron*).

This plant has an acrid taſte like muſtard, and is antiſcorbutic.

DCCI.

Tuſſilago (*Coltsfoot*).

Recept. nudum, papp. piloſus, cal. ſquamis ſubmembranaceis.

Tuſſilago Farfara (*Common Coltsfoot*).

Every part of this plant is uſed, which poſſeſſes a bitteriſh mucilaginous taſte, and is expectorant. The expreſſed juice is employed in ſcrophula, and the ſame and the decoction, in the proportion of 1 ounce to 1 lb. of fluid, is exhibited in pectoral diſeaſes and conſumption.

DCCII.

Tuſſilago Petaſites (*Great Coltsfoot*).

The root has a bitter and ſlightly acrid taſte. It is expectorant and diuretic, and employed in pectoral diſeaſes in decoction.

DCCIII.

Senecio.

Recept. nudum, papp. piloſus, cal. ſquamis apice ſphacelatis.

Senecio Vulgaris (*Common Groundſel*).

This plant has a ſaltiſh taſte. In its qualities it is anthelminthic, but chiefly uſed, externally, in the form of cataplaſm.

DCCIV.

Solidago.

Recept. nudum, papp piloſus, cor. radii ſubſeni remoti.

Solidago Virga Aurea (*Common Golden Rod*).

The plant is uſed, which has a bitter taſte. In its qualities it is diuretic, and employed in ulceration and calculus.

DCCV.

Inula.

Recept. nudum, papp. piloſus, antheræ baſi biſetæ.

Inula Helenium (*Elecampane*).

The root is the part uſed. It has an aromatic mucilaginous bitter taſte, and a fragrant ſmell. Its virtue reſides in a volatile oil. It is ſtimulant, expectorant, ſtomachic, alterative, and anthelminthic. It is employed in dyſpepſia, cachexy, cough, moiſt aſthma, abdominal ſwellings, itch, and mucous piles. Its preparations are, a tincture, candy, and extract.

DCCVI.

Inula Dyſenterica (*Meadow Inula*).

This plant is ſlightly acrid to the taſte, with little ſmell. It is employed in dyſentery and itch.

DCCVII.

Arnica.

Recept. nudum, papp. piloſus, ſtamina radii caſtrata.

Arnica Montana (*German Leopard's Bone*).

The flowers, plant, and root, are all uſed. The taſte is acrid, aromatic, and bitteriſh, with a ſtrong ſmell. The qualities are, ſtimulant, diuretic, emmenagogue, antiſeptic, and reſolvent. An infuſion of the flowers is uſed in the proportion of 1 dram to 4 to 1 lb. of fluid, in aſthenia, chronic rheumatiſm, amauroſis, palſy, epilepſy, amenorrhœa, and paralytic iſchuria. The root, in powder, in 5 or 10 grains, is uſed in diarrhæa, dyſentery, quartan fever, gangrene, and ſynochus. Externally, it is applied in malignant ulcers, and ſphacelus.

DCCVIII.

Doronicum.

Recept nudum, papp. piloſus, pappus radii nullus.

Doronicum Latifolium (*Great Leopard's Bane*).

The root is uſed, which is ſweet and aromatic. In its qualities it reſembles the arnica montana.

DCCIX.

Matricaria.

Recept. nudum, papp. nullus, cal. ſquamis imbricatus acutis.

Matricaria Chamomilla (*Corn Feverſhew*).

The flowers of this annual plant are uſed. They are bitter, with a fragrant unpleaſing ſmell. Their virtue reſides in a volatile oil, and bitter extractive principle. They are gently ſtimulant, and antiſpaſmodic. They are employed in dyſpepſia, in frequent vomiting and cardialgia, in dyſentery, ſpaſmodic colic, intermittent fevers, hyſteria, and dyſury, in the form of bath, glyſter, infuſion, and powder. The doſe of the powder is from half a dram to a dram; the infuſion is made in the proportion of two or three ounces to one lb. of fluid. The preparations are a water, volatile oil, and ſyrup.

DCCX.

Matricaria Parthenium (*Common Feverfew*).

The plant and flowers are uſed, which have a bitter taſte, with an offenſive ſmell. Their qualities are antiſpaſmodic, ſtomachic, emmenagogue, and repellent of milk. They are exhibited in colic, hyſteria, and dyſpepſia; externally, they are employed in the form of bath, glyſter, and cataplaſm.

DCCXI.

Anthemis.

Recept paleaceum, papp. nullus, cal. hæmiſphæricus.

Anthemis Catula (*Stinking Chamomile*).

The plant and flowers are uſed. They have a bitter taſte and fœtid ſmell. They are antiſpaſmodic and ſtomachic. They are employed in hyſteria and ſpaſmodic aſthma.

DCCXII.

Anthemis Nobilis (*Common Chamomile*).

The flowers are uſed, which have a bitter taſte, with a ſweetiſh ſmell. Their virtue reſides in a volatile oil and bitter extract. They are antiſpaſmodic, carminative, and ſtomachic. They are given in hyſteria, ſpaſmodic colic, flatulence, and intermittents.

DCCXIII.

Anthemis Pyrethrum (*Spaniſh Chamomile*).

The root of this plant has an acrid and moſt penetrating burning taſte. It is ſialagogue and errhine, and chewed in rheumatic toothach, in lingual palſy, and ſwellings of the ſalivary glands.

DCCXIV.

Achillea.

Recept. paleaceum, papp. nullus,
cal. oblongus, radius ſub. 5-florus.

Achillea Ageratum (*Sweet Milfoil*).

The plant is uſed, which has a bitteriſh aromatic taſte, with a ſweet ſmelling odor. It is ſtomachic, and uſed in dyſpepſia.

DCCXV.

Achillea Atrota.

This ſpecies has a bitter taſte and aromatic ſmell. It is ſtomachic, and uſed in dyſpepſia.

DCCXVI.

Achillea Millifolium (*Yarow*).

The leaves and flowering tops are the parts uſed. They have a bitter and ſlight aromatic taſte. Their virtue reſides in a volatile oil and bitter extract. It is ſtomachic and gently ſtimulant. It is employed in dyſpepſia, flatulent cholic, hemoptyſis, piles, hyſteria, and ſpaſmodic pains in childbed.

DCCXVII.

Achillea Ptarmica (*Common Sneezwort*).

The root, plant, and flowers, are all uſed. The taſte of the root is acrid and pungent; the ſmell of the flowers, nauſeous. Their virtue reſides in a reſinous principle. They are errhine and ſialogogue, and employed in place of the pyrethrum in lingual palſy and toothach.

DCCXVIII.

Sigeſbeckia.

Recept. paleaceum, papp. nullus radius dimidiatus.

Sigeſbeckia Orientalis.

This plant has a bitter taſte, and a muſky ſmell. It is exhibited in ſtrangury, calculus, gout, and leucorrhœa.

DCCXIX.

3. The third order of this claſs comprehends ſuch plants as have the florets of the diſk hermaphrodite, and thoſe of the radius neuter. The medical articles of this order are:

DCCXX.

Centaurea.

Recept. ſetoſum, papp. piloſus, radius corollæ tubuloſus.

Centaurea Behen.

The root is the part uſed, which has an acrid taſte and an odorous ſmell.

DCCXXI.

Centaurea Benedicta (Bleſſed Thiſtle).

The leaves, plant, and ſeed, are all uſed. The taſte of the plant is a pure ſtrong bitter. The ſeeds are ſweet and mucilaginous. The virtues of the plant are ſtomachic, antacid, and ſlightly emetic. It is given in dyſpepſia, in intermittents, leucophlegmaſia, jaundice, and abdominal ſwellings; externally, in ecchymoma. Its forms are an extract, infuſion, and decoction.

DCCXXII.

Centaurea Calcitrappa (*Common Star Centaury*).

The root is the part uſed. It has a bitter taſte, is ſtomachic, and employed in intermittents and dyſpepſia.

DCCXXIII.

Centaurea Cynamus (*Blue Bottle*).

This ſpecies is employed by chemiſts as a teſt.

DCCXXIV.

4. The fourth order of this claſs comprehends ſuch plants as have the florets of the diſk male, and thoſe of the radius female. Of this order there is only one medical article:

DCCXXV.

Calendula.

Recept. nudum, papp. nullus, ſem. membranacea.

Calendula Officinalis (*Common Marigold*).

The leaves and flowers are uſed. They have a bitteriſh taſte, and are in no way remarkable for their qualities, though given in eruptive diſeaſes.

DCCXXVI.

5. The laſt order of this claſs that includes any medical articles is the monogynia, or ſuch plants as have ſimple flowers.

DCCXXVII.

Lobelia.

Cal. 5-dentatus, cor. 1-petala irregularis, capſ. infera, 2-locularis.

Lobelia Siphyllitica (*Blue Cardinal Flower*).

The root is the part uſed. It is lacteſcent, acrid, and nauſeous. Its virtues are emetic and draſtically cathartic. It is uſed in lues in the form of decoction, the proportion being half an ounce to 12 ounces of water.

DCCXXVIII.

Lobelia Longiflora.

Lobelia Tupa.

The root of theſe ſpecies is only more acrid than the former, but agrees in its qualities.

DCCXXIX.

Viola.

Cal. 5-phyllus, cor. 5-petala irregularis, capſ. ſupera, 3-valvis.

Viola Canina (*Dog's Violet*).

The root of this plant is emetic and cathartic. Its doſe is from a ſcruple to half a dram.

DCCXXX.

Viola Ipecacuhana (*White Ipecacuanha*).

This poſſeſſes an emetic quality, but is leſs certain in its operation than the pſycothria emetica.

DCCXXXI.

Viola Odorata (*Sweet Violet*).

The recent flowers, root, and ſeeds, are uſed.

The root and ſeeds are emetic and diuretic. The flowers are only uſed in preparing a ſyrup. The doſe of the root and ſeeds, in powder, is half a dram; in decoction, the proportion is two or three drams to one pound of fluid.

DCCXXXII.

Viola Tricolor (*Three-coloured Violet*).

The plant is uſed. It is diuretic and cathartic, and is employed in the cruſta lactea and cutaneous diſeaſes of infants. Its forms are the powder, in a doſe of 8 to 30 grains; and the decoction, in the proportion of two drams to one pound.

DCCXXXIII.

CLASS XX. GYNANDRIA.

This claſs conſiſts of ſuch plants as have the ſtamina growing either upon the ſtile itſelf, or upon a receptacle that ſtretches out into the form of a ſtile, and ſupports both the ſtamina and piſtillum. The orders of this claſs are nine, four of which only include medical articles.

DCCXXXIV.

1. Of the firſt order, Diandria, or plants having two ſtamina, the following occur:

DCCXXXV.

Orchis.

Nectarium corniculatum.

Orchis Maſcula *Orchis Militaris* *Orchis Morio.*	*Male and Female Orchis, or Salep.*

The root is the part uſed. Its quality is mucilaginous. It is nutrient, obtunding, and aphrodiſiac. It is uſed in impotence, dyſentery, conſumption, and internal ulcers. Its proportions are two drams to one pound of fluid.

DCCXXXVI.

Epidendrum.

Nectarium turbinatum.

Epidendrum Vanilla (*Vanilla*).

The pod of this paraſitical ſhrub is the part uſed. Its taſte is grateful and aromatic, with a muſky ſmell. Its virtues are ſtimulant, calefacient, nervine, and aphrodiſiac. It is an ingredient in the preparation of chocolate.

DCCXXXVII.

2. Of the order of Hexandria, or ſuch plants as have ſix ſtamina, there is:

DCCXXXVIII.

Ariſtolochia.

6-gyna, cal. nullus, cor. 1-petala,
capſ. 6-locularis.

Ariſtolochia Clematitis (*Upright Birthwort*).

The root is the part uſed. It has an acrid bitter taſte, and a ſtrong ſmell. It is ſtimulant, ſtomachic, emmenagogue, and reſolvent. It is employed in amenorrhæa, chloroſis, cachexy, fiſtula, and cancer.

DCCXXXIX.

Ariſtolochia Longa et Rotunda (*Long and Round Birthwort*).

Theſe ſpecies are the ſame as the former.

DCCXL.

Ariſtolochia Serpentaria (*Virginian Snakeroot*).

The root is the part uſed. Its taſte is aromatic, bitteriſh, and pungent, with a ſmell like valerian. It is ſtimulant and cordial. It is employed in typhus, intermittents, ſphachelus, chloroſis, amenorrhœa, and venomous bites. Its forms are the powder, from 10 to 30 grains; the infuſion, in the proportion of half a dram to 3 ounces for 1 lb. of fluid.

DCCXLI.

Ariſtolochia Trilobata (*Three-lobed Snakeroot*).

This ſpecies is the ſame as the former.

DCCXLII.

3. Of the order of Dodecandria, or plants that have 12 ſtamina, the only article is:

DCCXLIII.

Cytinus.

1-gynus, cal. 4-fidus, cor. 0. bacca 8-locularis.

Cytinus Hypocyſtis.

The inſpiſſated juice of the berries is uſed. It has an acid auſtere ſtyptic taſte, and is ſoluble in alcohol. Its qualities are aſtringent, and it is uſed in profluvia.

DCCXLIV.

4. The only articles of the next order, Polyandria, or ſuch plants as have many ſtamina, are:

DCCXLV.

Arum.

Spatha, cal. nullus, cor. nulla, ſtam. ſupra piſtilla.

Arum Maculatum (Waterchin).

The recent root is the part uſed. It poſſeſſes a burning taſte. Its virtue reſides in an acrid volatile principle; but, when dried, it becomes farinaceous, and has little or no acrimony. Its qualities are ſtimulant, ſudorific, expectorant, and coſmetic. When freſh, it is corroſive and veſicatory. It is employed in dyſpepſia, headach, intermittents, moiſt aſthma, cachexy, and chronic rheumatiſm.

DCCXLVI.

Zoſtera.

Folium, cal. nullus, cor. nulla, ſem. alterna, nuda.

Zoſtera Marina.

The fibres of the root are the part uſed, which are burnt to aſhes, and exhibited in ſcrofula and bronchocele.

DCCXLVII.

Class XXI. Monoecia.

This claſs conſiſts of ſuch plants as have no hermaphrodite flowers, but bear both male and female flowers in the ſame plant. The orders of this claſs are eleven.

DCCXLVIII.

1. The firſt is Monandria, or ſuch as have their male flowers furniſhed with one ſtamen.

DCCXLIX.

Cynomorium.

Maſ. cal. ament. cor. nulla. Foem. cal. ament. cor. o. ſtil. 1. ſem. 1, ſubrot.

Cynomorium Coccinium.

This paraſitical plant has a bitteriſh ſtyptic taſte, with a black colour. In its quality it is aſtringent, and employed in hemorrhages, dyſentery in its laſt ſtage, and ulcers. Its form is the powder in a doſe of 20 grains to a dram, and alſo in decoction. Externally, it forms an application to phagedenic ulcers.

DCCL.

2. The next order, in which any medical articles occur, is the Triandria, or ſuch plants as have their male flowers furniſhed with three ſtamina.

DCCLI.

Carex.

Maſ. ament. 1-florum, cor. nulla. Fœm. ament. 1-fiorum, cor. 1. ſtil. 1. ſem. 1, tunicatum.

Carex Arenaria (Sea Carex).

The root is the part uſed, which poſſeſſes a ſweetiſh teribinthinate ſmell. Its qualities are ſudorific and diuretic. It is employed in cutaneous diſeaſes and ſiphylis.

DCCLII.

Phyllanthus.

Maſ. cal. 6-partitus, cor nulla.
Fœm. cal. 6-partitus, cor. 0.
ſtil. 3. capſ. 3-cocca.

Phyllanthus Emblica (Shrubby Phyllanthus).

The dried fruit and nut are the parts uſed. The taſte is acid and auſtere, and ſomewhat acrid. Its qualities are aſtringent. It is employed in ſcurvy and dyſentery.

DCCLIII.

3. Of the order of Tetrandria, or ſuch plants as have their male flowers furniſhed with four ſtamina, the articles are:

DCCLIV.

Betula.

Maſ. ament. 3-florum, cor. 4 partita. Fœm. ament. 2-florum, cor. 0.
ſtil. 2. ſem. 1-ovatum.

Betula Alba (Common Birch Tree).

The leaves, outer bark, and juice, are uſed. The leaves are employed in eriſipelas; the juice, in cutaneous diſeaſes, ſcurvy, and worms. Its preparation is the black oil of the bark.

DCCLV.

Buxus.

Maſ. cal. 3-phyllus, cor. 2-petala,
Fœm. cal. 4-phyllus, cor. 3 pet.
ſtigm. 3. capſ. 3-locularis.

Buxus Sempervirens (Common Box Tree).

The wood and leaves are uſed. Their taſte is bitter, with a rank fœtid ſmell. The wood is ſudorific and alterative; the leaves cathartic. The decoction is uſed in epilepſy and ſiphylis; the oil in baldneſs.

DCCLVI.

Urtica.

Maſ. cal. 4-phyllus, cor. nulla, rect. cyathiforme. Fœm. cal. 2-valvis, cor. 0. ſtig. villoſ. ſem. 1. ovatum.

Urtica Dioica (*Common Nettle*).

The root, plant, and juice, are all uſed. The juice is alterative in doſes of one or two ounces, and employed in hemoptyſis, piles, phthiſis, and jaundice. The ſtinging with nettles, or its external uſe, takes place in palſy and chronic weakneſs.

DCCLVII.

Urtica Pilulifera (*Roman Nettle*).

The ſeeds are chiefly uſed, which are oily, and have a diuretic quality. They are employed in meaſles, nephritis, and hemorrhage.

DCCLVIII.

Urtica Urens (*Leſſer Nettle*).

The ſeeds are uſed in decoction from their anthelminthic quality.

DCCLIX.

Morus.

Maſ. cal. 4-partitus, cor. nulla. Fœm. cal. 4-phyllus, cor. 0. ſtil. 2. ſem. 1. baccatum.

Morus Nigra (*Common Mulberry Tree*).

The fruit, leaves, and bark, are all uſed. The fruit is ſweet and ſlightly acid, the leaves are ſtyptic. The fruit is uſed in fevers, as refrigerant. The bark is employed in tenia.

DCCLX.

4. Of the order of Pentandria, or ſuch plants as have their male flowers furniſhed with five ſtamina, there is only,

DCCLXI.

Xanthium.

Maſ. cal. comm. polyph. cor. 5-fida, filam. connexa. Fœm. cal. nullus, cor. 0. ſtil. 2 drupa 2. locul.

Xanthium Strumarium (*Leſſer Burdock*).

The recent leaves and ſeeds are uſed. Their taſte is bitter and ſlightly acrid. They are employed in ſcrofula, bronchocele, herpes, and eriſipelas. The doſe of the ſeeds is half an ounce.

DCCLXII.

5. Of the next order, Polyandria, or ſuch plants whoſe male flowers have more than ſeven ſtamina, the articles are:

DCCLXIII.

Poterium.

Maſ. cal. 4-phyllus, cor. 4-partita, ſtam. 32 circiter. Fœm. cal. 4-phyllus, cor. 4-petala, piſt. 2. ſem. 2-obducta.

Poterium Sanguiſorbum (*Common Burnet*).

The plant is uſed, having a ſtyptic taſte, and ſmell ſlightly fragrant. Its virtues are aſtringent.

DCCLXIV.

Quercus.

Maſ. cal. 5-fidus, cor. nulla, ſtam. 10 circiter. Fœm. cal. integer. cor. 0. ſtil. 5. nux coriacea.

Quercus Robur (*Common Oak Tree*).

The fruit, bark, leaves, and cup of the fruit, are all uſed. The taſte is ſtyptic. The virtues are tonic, aſtringent, and obſtipating. Internally, it is uſed in decoction and powder, conjoined with bitters, in intermittents and paſſive diſcharges. Externally, it is employed in the form of fomentation, injection, and gargle, in prolapſus of the vagina and rectum, in relaxation of uvula, in piles, leucorrhæa, and gonorrhæa. The proportion, in decoction, is one ounce to the lb. of fluid; and in powder, the doſe is to the extent of half a dram. Its preparation is an ointment for piles, in the proportion of 1 ſcruple to 3 ounces of axunge.

DCCLXV.

Quercus Cerris (*Turkey Oak Tree*).

The galls are the part uſed, or excreſcences from it. They are ſtyptic, and of courſe tonic and aſtringent. They are uſed in the form of powder, decoction, and ointment, in ſwelling of the anus, prolapſus, and gonorrhœa.

DCCLXVI.

Quercus Suber (Cork Tree).

The bark is the part uſed. It is aſtringent, and, when burnt and mixed with oil, it is an application in piles.

DCCLXVII.

Juglans.

Maſ. ament. imbricat. cor. 6-partita, ſtam. 18 circiter. Fœm. cal. 4-fidus, cor. 4-petala; ſtil. 2. drupa coriacea.

Juglans Regia (Walnut Tree).

The rind of the green fruit, and the fruit and ſhell, are all uſed. The rind has a bitter ſtyptic taſte, with a ſtrong ſmell. It is tonic, aſtringent, and anthelminthic. The decoction is in the proportion of 1 lb. to 20 of fluid, and that boiled to 10. It is employed in obſtinate lues, leproſy, and worms. An extract is alſo prepared.

DCCLXVIII.

Corylus.

Maſ. ament. imbricat. cor nulla, ſtam. 2. Fœm. cal. 2-phyllus, cor. 0. ſtil. 2. nux nuda.

Corylus Arillana (Hazle Nut).

The fixed oil from it turns rancеſcent with difficulty, and may be therefore impregnated with perſumes.

DCCLXIX.

Liquidambar.

Maſ. cal. 4-phyllus, cor. nulla, ſtam. plurima. Fœm. cal. 4-phyllus, cor. o. ſtil. 2. capſ. polyſperma.

Liquidambar Styraciflua (Sweet Gum).

This balſam poſſeſſes an acrid aromatic taſte, with a fragrant ſmell. It is ſtimulant and calefacient, and uſed externally in palſy and itch.

DCCLXX.

6. Of the next order of this claſs, the Monodelphia, or ſuch plants as have their male flowers furniſhed with one ſet of united ſtamina, the medical articles are:

DCCLXXI.

Pinus.

Maſ. cal. 4-phyllus, cor. nulla, ſtam. plurima. Fœm. ament. ſtrobilac. cor. 2. piſt. 2. nuces 2, alatæ.

Pinus Abies (Norway Spruce).

The tops, and concrete gum or reſin, are uſed. The tops are aceſcent and reſinous. The reſin has an agreeable bitteriſh taſte, and fragrant ſmell. They are ſtimulant, diuretic, and diaphoretic. The decoction of the tops is employed in cutaneous diſeaſes. The reſin, melted with axunge, is uſed externally in leproſy. The melted reſin, when ſtrained, forms burgundy pitch; and, when boiled with vinegar, colophonium.

DCCLXXII.

Pinus Balſâmica.

Pinus Canadenſis (Canada Balſam).

This liquid reſin has a taſte ſlightly aromatic, ſtimulant, pungent, and bitteriſh, with a fragrant pleaſing ſmell. It is ſtimulant, diuretic, and diaphoretic. It is exhibited in gonorrhœa, cutaneous diſeaſes, particularly herpes, and cold affections of the viſcera. The doſe is from 40 to 60 drops.

DCCLXXIII.

Pinus Cimbra (Sibirian Stone Pine Tree).

The liquid reſin is here alſo uſed. It is diuretic and ſtimulant, and employed in gonorrhœa and ulcers.

DCCLXXIV.

Pinus Larix (White Larch Tree).

The reſin is here diuretic, ſtimulant, and gives the urine a violet ſmell. It is applied to the ſame maladies as the former ſpecies.

DCCLXXV.

Pinus Munchos.

A diſtilled oil is the preparation from this ſpecies.

DCCLXXVI.

Pinus Pinea (Stone Pine Tree).

The nuts are here uſed, which are ſweet and oily. Their qualities are nutritive. They are given in conſumption and ſtrangury.

DCCLXXVII.

Pinus Picea (*Silver Fir Tree*).

This ſpecies produces white reſin.

DCCLXXVIII.

Pinus Sylveſtris (*Scot's Fir Tree*).

The tops and liquid reſin are uſed. Their qualities are reſinous, acrid, and bitter. They are ſtimulant, diuretic, diaphoretic, and depilatory. Internally, they are exhibited in chronic rheumatiſm, gonorrhœa, moiſt aſthma, ſcurvy, cutaneous diſeaſes, and herpes. Externally, they are employed, in glyſter, in coſtiveneſs, and, in ointment or plaſter, in atonic ulcers. Internally, from 5 to 10 grains of the reſin is given, beat up with ſugar or yolk of an egg. The decoction of the tops is in the proportion of half an ounce to 2 lbs. of fluid; in glyſter, half an ounce of the reſin is beat up with the yolk of an egg. The preparations from the tree are white reſin, or colophonium, black reſin, or tar, volatile oil of turpentine, and tar water.

DCCLXXIX.

Thuya.

Maſ. amentum, cor. nulla, anther 4. Fœm. ament. ſtrobilac. cor. 0 piſt. 2. nux cincta ala.

Thuya Occidentalis (*American Arbor Vitæ Tree*).

The leaves and wood are uſed. Their qualities are reſinous, and hence expectorant and ſudorific. The decoction is given in dropſy, rheumatiſm, cough, and intermittents.

DCCLXXX.

Croton.

Maſ. cal. 5-phyllus, cor. 5 petala. ſtam. 15. Fœm. cal. 5-phyllus, cor. 0. ſtil. 3. capſ. 3-cocca.

Croton Caſcarilla (*Caſcarilla*).

The bark is the part uſed, which has a bitter and ſlightly acrid taſte, with a fragrant ſmell like muſk. Its virtue reſides in a volatile oil, and bitter extract. It is tonic and ſtimulant, and employed in dyſpepſia, diarrhæa, intermittent and bilious fevers. The doſe of the powder is from 10 to 30 grains; and the proportion of the infuſion is a dram to the lb. The doſe of the extract is a dram.

DCCLXXXI.

Croton Lactiferum (*Gum Lac*).

This is a reſinous ſubſtance, formed by inſects upon the tree. It is red coloured and ſtyptic; it is therefore aſtringent, and it is uſed in laxity of the gums in the form of tincture.

DCCLXXXII.

Jatropha.

Maſ. cal. nullus, cor. 5-fida, ſtam. 10. Fœm. cal. nullus, cor. 5-petala, ſtil. 3. capſ. 3-cocca.

Jatropha Elaſtica (*Calachouc*).

This elaſtic reſin is uſed for making catheters, bougies, and peſſaries, &c.

DCCLXXXIII.

Jatropha Manihat (*Caſſava*).

The root is the part uſed, which, when dried and freed of the poiſonous juice, is eatable and nutritive. The juice is poiſonous, acrid, and burning.

DCCLXXXIV.

Ricinus.

Maſ. cal. 5-partitus, cor. nulla, ſtam. multa. Fœm. cal. 3-partitus, cor. 0. ſtil. 3. capſ 3-cocca.

Ricinus Communis (*Common Palma Chriſti*).

The expreſſed oil of the ſeeds is uſed, which is gently laxative, cathartic, and anthelminthic. It is employed in coſtiveneſs, dyſentery, ileas, nephritis, Devonſhire colic, and worms. The doſe is from 1 to 2 ounces in a proper vehicle.

DCCLXXXV.

7. Of the next order of this claſs, Syngeneſia, or ſuch plants as have their male flowers furniſhed with ſtamina of which the antheræ are united, the medical articles are:

DCCLXXXVI.

Momordica.

Maſ. cal. 5-fidus, cor. 5-fida, filam. 3. Fœm. cal. 5-fidus, cor. 5-fida, ſtil. 3-fidus, pom. elaſticum.

Momordica Elaterium (*Squirting Cucumber*).

The root, recent fruit, and reſinous extract, are all uſed. The taſte is intenſely bitter, acrid, and nauſeous. The qualities are emetic, draſti-cathartic, emmenagogue, and diuretic. It is employed in dropſy, coſtiveneſs, amenorrhæa, and ſcrofula. The doſe of the root is 15 to 30 grains; and of the extract, from 1 to 4 grains.

DCCLXXXVII.

Cucumis.

Maſ. cal. 5-dentatus, cor. 5-fida, filam 3. Fœm. cal. 5-dentatus, cor. 5-fida, ſtil. 3-fida, pomum, ſem. argutis.

Cucumis Colocynthis (*Colocynth or Bitter Cucumber*).

The fruit and pulp are uſed. They have a very bitter nauſeous taſte and ſmell. Their virtues are diuretic, deobſtruent, draſtically cathartic, emmenagogue, and anthelminthic. They are employed in dropſy, coſtiveneſs, and epilepſy. The doſe is ⅛ of a grain, 30 grains of the pulp boiled in half a pound of fluid, forms a glyſter. The antidote of this medicine is camphor.

DCCLXXXVIII.

Colocynthis Melo (Melon).

The ſeeds are oily and ſucculent. Their qualities are refrigerating. In the form of emulſion they are given in fevers and ſtrangury.

DCCLXXXIX.

Colocynthis Sativus (Common Cucumber).

This ſpecies reſembles the former.

DCCXC.

Cucurbita.

Maſ. cal. 5-dentatus, cor. 5-fida, filam. 3. Fœm. cal. 5-dentatus, cor. 5-fida, ſtil. 3-fida, pomum, ſem. marginatis.

Cucurbita Lagenaria	*Water Melon, or Gourd.*
Cucurbita Pipa	
Cucurbita Citrullus	

Its qualities reſembles thoſe of the former articles.

DCCXCI.

Brionia.

Maſ. cal. 5-dentatus, cor. 5-partita, filam. 3. Fœm. cal. 5-dentatus, cor. 5-petala, bacca.

Brionia Alba (White Briony).

The recent root and inſpiſſated juice, are the parts uſed. Their taſte is acrid and intenſely bitter. Their ſmell is nauſeous. Their virtue reſides in an acrid volatile principle. They are draſtically cathartic, diuretic, anthelminthic, and emmenagogue; externally, rubefacient and reſolvent. They are given in dropſy, aſthma, mania, epilepſy, and chronic rheumatiſm. The doſe of the powder is half a ſcruple; of the extract, 2 drams to half an ounce. It is alſo uſed in decoction, Externally, it is applied in cataplaſm, in œdema, lupia, and ecchymoma.

DCCXCII.

Class XXII. Dioecia.

This claſs conſiſts of ſuch plants as have no hermaphrodite flowers, but bear male and female flowers in diſtinct plants. It comprehends 13 orders.

DCCXCIII.

1. The firſt of the orders in which any medical article occurs, is the Diandria, or ſuch plants as have their male flowers furniſhed with two ſtamina.

DCCXCIV.

Salix.

Maſ ament. ſquama, cor. nulla, ſtam. 2, raro 5. Fœm. ament. ſquama, cor. 0. ſtig. 2. capſ, 2-valvis, ſem. pap.

Salix Alba (White Willow).
Salix Caprea (Black Willow).
Salix Fragilis (Crock Willow).
Salix Pentandra (Sweet Willow).
Salix Vitulina (Yellow Willow).

The rind of the branches is the part uſed. The taſte is bitter and ſtyptic. Its qualities are tonic;

aſtringent, and ſtomachic. It is employed as a ſubſtitute for the bark in intermittents, and other diſeaſes in which the bark is uſed. The doſe of the powder is from 20 grains to one ſcruple; and the proportion of the decoction is half an ounce to one lb. of fluid.

DCCXCV.

2. The next order, Tetrandria, comprehends ſuch plants as have their male flowers furniſhed with 4 ſtamina.

DCCXCVI.

Viſcum.

Maſ. cal. 4-partitus, cor. nulla. Fœm. cal. 4-phyllus, cor. 0. ſtigm. obtuſ. bacca 1 ſperma, infera.

Viſcum Album (*White Miſletoe*).

The woody branches and leaves are the parts uſed. When recent, they have a nauſeous ſmell. When dried, they are mucilaginous. They are lubricating and obtunding. They are employed in epilepſy, chorea, convulſion, and dyſentery. The doſe of the powder is half a dram.

DCCXCVII.

Myrica.

Maſ. ament. ſquama, cor. nulla. Fœm. ament. ſquama, cor. 0. ſtil. 2. bacca 1-ſperma.

Myrica Gale (*Sweet Gale Willow*).

The leaves are the part uſed. They give a yellow colour, have a bitter taſte, and inodorous ſmell. They are narcotic, and uſed againſt itch and vermin.

DCCXCVIII.

3. The next order of this claſs is Pentandria, or ſuch plants as have their male flowers furniſhed with five ſtamina.

DCCXCIX.

Piſtachia.

Maſ. cal. 5-fidus, cor. nulla. Fœm. cal. 3-fidus, cor. 0. ſtil. 3. drupa ſicca.

Piſtachia Vera (*Piſtachio Nut*).

The nuts, the part uſed, are oily, and in their qualities nutritive.

DCCC.

Piſtachia Terebenthinus (*Common Turpentine Tree*).

The liquid reſin is the part uſed, which has a grateful bitter, and ſlightly acrid taſte, giving the urine a violet ſmell. In its qualities it is ſtimulant, diuretic, eccoprotic, and reſolvent. It is employed in cough, conſumption, ulcers, and gonorrhœa.

DCCCI.

Piſtachia Lentiſcus (*Common Maſtic Tree*).

The concrete reſin is uſed, which is in quality reſinous and aromatic. It is uſed as a maſticatory, and for fumigation.

DCCCII.

Cannabis.

Maſ. cal. 5-partitus, cor. nulla. Fœm. cal. 1-phyllus, cor. 0. ſtil. 2. nux.

Cannabis Sativa (*Common Hemp*).

The ſeed is uſed, which has a rank ſmell. Its virtue reſides in an oily and mucilaginous principle. It is obtunding and ſedative, and employed in gonorrhœa, ſtrangury, and catarrhal cough, in the form of infuſion or emulſion, the proportions being half an ounce to 4 lb.

DCCCIII.

Humulus.

Maſ. cal. 5-phyllus, cor. nulla. Fœm. cal. 1-phyllus, cor. 0, ſtil. 2. ſem. calyce alatum.

Humulus Lupulus (*Hops*).

The ſtroboli are the parts uſed. Their taſte is bitter, with a grateful aromatic nidorous ſmell. They are narcotic and ſtomachic, and employed in luxations and baldneſs.

DCCCIV.

4. Of the order of Hexandria, or ſuch plants as have their male flowers furniſhed with 6 ſtamina, the following medical articles occur:

DCCCV.

Smilax.

Maſ. cal. 6-phyllus, cor. nulla.
Fœm. cal. 6-phyllus, cor. o.
ſtil. 3. bacca ſupera, 3-loc.

Smilax Sarſaparilla (*Sarſaparilla*).

The root is the part uſed. Its taſte is mucilaginous and bitteriſh. Its qualities are diuretic, diaphoretic, and alterative. They are employed in lues, cachexy, and gout. The doſe of the powder is from 1 ſcruple to 2; and the decoction is in the proportion of 3 drams to 2 lbs.

DCCCVI.

Smilax China (*China*).

The root is uſed, which is mucilaginous to the taſte, and without ſmell. It is employed in lues and gout. The proportion of the decoction is one ounce to a lb.

DCCCVII.

5. Of the order, Octandria, or ſuch plants as have their male flowers furniſhed with 8 ſtamina, the articles are:

DCCCVIII.

Populus.

Maſ. ament. lacerum, cor. nulla,
nect. ovat. ſtam. 8-16. Fœm.
ament. lacerum, cor. o. ſtigm.
4-fid. capſ. 2-valvis, ſem. pappoſa.

Populus Nigra (*Black Poplar Tree*).

The gems are the part uſed. They are obtunding, emollient, and ſoporific. They are employed in diarrhæa and burns.

DCCCIX.

Populus Balſamifera (*Tamahac Poplar Tree*).

The gum is the part uſed, which has a muſky ſmell, and is uſed in vomiting and hyſteria.

DCCCX.

Rhodiola.

Maſ. cal. 4-partitus, cor. 4-petala.
Fœm. cal. 4-partitus, cor. 0 piſt.
4. capſ. 4 polyſpermæ.

Rhodiola Roſea (*Share-root*).

The root has a fragrant roſy ſmell. It is red, and ſtyptic, and employed in leucorrhæa and headach.

DCCCXI.

6. Of the order of Enneandria, or ſuch plants whoſe male flowers are furniſhed with 9 ſtamina, the only article is:

DCCCXII.

Mercurialis.

Maſ. cal. 3-phyllus, cor. nulla, ſtam. 9-12. Fœm. cal. 3-phyllus, cor. 0. ſtil. 2. capſ. 2-cocca.

Mercurialis Annua (*Mercurialis*).

This plant is cathartic, hipnotic, repellent, and coſmetic. It is uſed in ſiphylis, and in decoction for glyſters.

DCCCXIII.

7. Of the order of Dodecandria, or plants

whoſe male flowers are furniſhed with 12 ſtamina, the only article that occurs is:

DCCCXIV.

Meniſpermum.

Maſ. cal. 2 phyllus, cor. 12-petala. Fœm cal. 6-phyllus, cor. 6-petal, bacca 3-cocca.

Meniſpermum Cocculus (*Indian Berries*).

The fruit or nut is the part uſed. It has a taſte highly bitter and pungent. It is narcotic, and uſed againſt vermine.

DCCCXV.

8. Of the next order, Monodelphia, or plants whoſe male flowers are furniſhed with one ſet of united ſtamina, the articles are:

DCCCXVI.

Juniperus.

Maſ. ament. cor. nulla, ſtam. 3. Fœm. cal. 3-partitus, cor. 3-petala, ſtil. 3. bacca intera, 3-ſperma, calycina.

Juniperus Sabina (*Common Savin*).

The leaves are the part uſed. They have an acrid bitteriſh taſte, with a goatiſh or rank ſmell. Their virtue reſides in a copious volatile oil. They are ſtimulant, corroſive, emmenagogue, antiſpaſmodic, diuretic, depilatory, and anthelminthic. They are uſed internally in chronic amenorrhœa in the form of powder, infuſion, and decoction:

externally, in cataplaſms, caries, tinea, pſora, fungous ulcers, warts, candylomata, and toothach. The doſe of the powder is from 5 to 15 grains. The preparations are the diſtilled water, oil, and extract.

DCCCXVII.

Juniperus Communis (*Common Juniper*).

The berries, wood, and reſin, are all uſed. The taſte of the berries is aromatic and ſweet, with a fragrant ſmell. Their virtues depend on a copious volatile oil and reſinous principle. The qualities of the wood are the ſame, but in a leſs degree; and the reſin poſſeſſes a ſtrong reſinous taſte. Theſe parts are all ſtimulant, diuretic, alterative, and carminative. The decoction and extract, though leſs ſtimulant, are more diuretic. All the forms are employed in dropſy, aſthma, catarrh, and cutaneous diſeaſes. The oil is uſed againſt worms. The doſe of the powder is 1 ſcruple; and the proportion of the infuſion is from 1 to 4 drams to 1 lb. of fluid. The various preparations are, a decoction, infuſion, extract, rob, diſtilled water, volatile oil, and ſpirit.

DCCCVIII.

Juniperus Lycia (*Olibanum*).

This gum reſin is yellow and pellucid, with a bitteriſh taſte and fragrant ſmell. It is employed in leucorrhæa, and for fumigations.

DCCCXIX.

Ciſſampelos.

Maſ. cal. nullus, cor. 4-petala, ſtam. 4. Fœm cal. nullus, cor. nulla, ſtigm. 3. bacca 1-ſperma.

Ciſſampelos Pareira (*Pareira Brava*).

The root of this South-American tree is the part uſed. Its taſte is a bitter ſweet. Its virtues are diuretic and alterative. It is employed in dyſury, urinary calculus, jaundice, gout, and pituitous diſeaſes. Its form is the infuſion, in the proportion of half an ounce to 2 lb., reduced by boiling to 1.

DCCCXX.

9. Of the next order, Syngeneſia, or plants whoſe male flowers are furniſhed with ſtamina of which the antheræ are united, there is only one medical article.

DCCCXXI.

Ruſcus.

Maſ. cal. 6-phyllus, cor. nulla, ſtam. 5. Fœm. cal. 6-phyllus, cor nulla, piſt. 1. bacca 3-loc. 2-ſperma.

Ruſcus Aculeatus (*Prickly Butcher's Broom*).

The root of this ſhrub is the part uſed. Its taſte is a bitter ſweet, like dulcamara. It is tonic, ſtimulant, and reſolvent. It is given in abdominal ſwellings, cutaneous diſeaſes, jaundice, and dropſy.

DCCCXXII.

Ruſcus Hypogloſſum (*Double Leaved Butcher's Broom*).

The plant is uſed, the quality of which is aſtringent; and it is employed in laxity of the uvula.

DCCCXXIII.

CLASS XXIII. POLYGAMIA.

This claſs conſiſts of ſuch plants as bear hermaphrodite flowers, and alſo either male or female flowers, or both. The orders of this claſs are three.

DCCCXXIV.

1. The firſt, or Monecia, comprehends ſuch plants as have the polygamy on the ſame plant, and the medical articles of this kind are:

DCCCXXV.

Veratrum.

Her. cal. nullus, cor. 6-petala, ſtam. 6. piſt. 3. capſ 3 Maſ. cal. nullus, cor. 6-petala, ſtam. 6.

Veratrum Album (*White Hellebore*).

The root is the part uſed, the taſte of which is acrid, ſaline, and bitteriſh, with a nauſeous ſmell. It is draſtically cathartic, emetic, emmenagogue, errhine, and vermifuge. Internally, it is uſed in dropſy, epilepſy, obſtinate cutaneous diſeaſes, mania, melancholy, dyſpepſia, and quartan ague. Its form is that of powder, from 3 to 40 grains; in infuſion, from 1 ſcruple to 3 drams to 1 lb. of fluid; in extract, the doſe is from 2 grains to 1 dram, and the infuſion in vinegar is 1 dram to 20. The antidote of this root is coffee.

DCCCXXVI.

Veratrum Nigrum (*Black Hellebore*).

The root is alſo uſed, and its qualities are the ſame as the former.

DCCCXXVII.

Veratrum Sabadilla.

The ſeeds and capſules are uſed. Their taſte is bitter, acrid, and pungent. Their virtues are, draſtically cathartic, diuretic, emetic, anthelminthic, and good againſt vermin. They are employed in doſes of 2 grains, and ſo on progreſſively, according to the age of the child.

DCCCXXVIII.

Andropogon.

Her. glum. 1-flor. glum. baſi ariſt. ſtam. 3. ſtil. 2. ſem. 1. Maſ. glum. 1-flor. glum. baſi ariſt. ſtam. 3.

Andropogon Nardus (*Spikenard*).

The fibres of the root are the parts uſed, which have an acrid bitteriſh taſte, and fragrant ſmell. Their virtues are cordial and ſtomachic. They are employed in aſthenia and dyſpepſia.

DCCCXXIX.

Parietaria.

Her cal. 4-fidus, cor. nulla, ſtam. 4. ſtil. 1. ſem 1. Fœm. cal. 4-fidus, cor. nulla. ſtil. 1. ſem. 1.

Parietaria Officinalis (*Wall Pellitory*).

The plant and root are both uſed. Its quality is watery and inſipid. It is reckoned cooling and diuretic, and employed in ſtrangury and conſumption.

DCCCXXX.

Mimoſa.

Her. cal 5-dent. cor. 5-fid. ſtam. 4-100. piſt. 1. legum. Maſ. cal. 5-dent. cor 5-fid. ſtam. 5-100.

Mimoſa Catechu (*Japan Earth*).

The reſinous gum is the part uſed. It poſſeſſes a bitteriſh, and afterwards ſweetiſh ſtyptic taſte. Its virtue reſides in a reſinous aſtringent extract. Its virtues are tonic and aſtringent. It is employed in diarrhæa, atonic dyſentery, and paſſive diſcharge of piles. Externally, in relaxed ulcers, eſpecially of the gums and uvula, and in acrid catarrhal defluxions. Its forms are the powder; the doſe is from 10 grains to 1 ſcruple; and in tincture.

DCCCXXXI.

Mimoſa Nilotica (*Gum Arabic*).

Mimoſa Senegal (*Gum Senegal*).

Theſe gums, in their qualities, are mucilaginous, ſweet, and nutrient. They are uſed internally in dyſury, dyſentery, hoarſeneſs, ophthalmia, and where acrimony and irritation prevail. Their form is the watery ſolution or mucilage.

DCCCXXXII.

2. Of the order of Diœcia, or ſuch as have the polygamy on two diſtinct plants, the articles are:

DCCCXXXIII.

Fraxinus.

Her. cal. o-ſ 4-part. cor. o-ſ. 4-pet. ſtam. 2 piſt. 1. ſem. 1. Fœm. cal. o-ſ. 4-part. cor o-ſ. 4-pet. piſt. 1. ſem. 1.

Fraxinus Excelſior (*Common Aſh*).

The bark of the branches, the ſeed, and leaves, are all uſed. The bark is bitteriſh, the ſeed aromatic. The qualities of the bark are antiſeptic; of the ſeed, diuretic. The bark is uſed in place of the cinchona in intermittents; the ſeed in gravel and obeſity; the leaves in venomous bites.

DCCCXXXIV.

Fraxinus Rotundifolia, et aliæ Species, (*Manna*).

The ſaccharine juice, or manna, is the product from theſe ſpecies. In taſte, it is nauſeouſly ſweet, its virtue reſiding in a ſaccharine mucilaginous principle. Its quality is eccoprotic, and employed againſt coſtiveneſs in children, from 1 ſcruple to 3; and in adults to 1 ounce.

DCCCXXXV.

Panax.

Her. umb. cal. 5-dent. cor. 5-petala, ſtam. 5. ſtil. 2. bacca 2-ſperm. Maſ. umbel. cal. integ. cor. 5-petala, ſtam. 5.

Panax Quinquefolium (*Ginſeng*).

The root is the part uſed. Its taſte is grateful, and ſlightly aromatic. Its virtues are gently ſtimulant and aphrodiſiac. It is given from 1 ſcruple to a dram in impotence, aſthenia, and atrophy.

DCCCXXXVI.

3. Of the laſt order of this claſs, Triœcia, or ſuch as have their polygamy on three diſtinct plants, the articles are:

DCCCXXXVII.

Ceratonia.

Her. cal. 5-partitus, cor. nulla, ſtam. 5. ſtil. 1. legum. coriac. polyſperm. Maſ. cal. 5-partitus. cor. nulla, ſtam. 5. Fœm. cal. ſub. 5-dent. cor. nulla, ſtil. 1. legum. coriac. polyſperm.

Ceratonia Siliqua (*St. John's Bread*).

The fruit is the part uſed. It is ſweet and mucilaginous. Its virtues are ſtimulant and expectorant. It is employed, in decoction, in hoarſeneſs, acrid cough, and catarrh.

DCCCXXXVIII.

Ficus.

Recept. commune turbinatum, conniventi-clauſum, carnoſum. Fœm. cal. 5-partitus, cor. nulla, piſt. 1. ſem. 1. Maſ. cal. 3-partitus, cor. nulla, ſtam. 3. Maſ et Fœm. intra idem receptaculum commune, diſtinctis fructificationibus partialibus.

Ficus Carica (*Common Fig Tree*).

The fruit is the part uſed. It is ſweet and mucilaginous. Its virtues are nutrient, emollient, maturating, obtunding, expectorant, and eccoprotic. The decoction is given internally in hoarſeneſs, cough, Poitou, colic, and coſtiveneſs. Externally, boiled in milk, or roaſted, the fruit is applied in toothach, phlegmon, cynanche, bubo, and carbuncle.

DCCCXXXIX.

CLASS XXIV. CRYPTOGAMIA.

This claſs conſiſts of ſuch plants as conceal their fructification, having their flowers either within the fruit, or ſo ſmall as not to be perceptible to the naked eye. The fructification in theſe is alſo uncommon in its ſtructure. The orders of this claſs are four.

DCCCXL.

1. The firſt is the Filices or Ferns, comprehending ſuch plants as are dorſiferous. Of this order, the medical articles are:

DCCCXLI.

Fructificationes Spicatæ.

Equiſetum.

Spica ſparſ.; fruct. peltatæ, baſi valvulatæ.

Equiſetum Arvenſe (*Corn Horſetail*).

The plant is uſed, which is aſtringent and diuretic. It employed in gonorrhœa, in all paſſive diſcharges, in conſumption, and hematuria.

DCCCXLII.

Fructificationes frondoſæ in pagina inferiore.

Pteris.

Linneæ marginis ad peripherium.

Pteris Aquilina (Female Fern).

The root is the part uſed, which is anthelminthic, and is given in powder to 1 ſcruple with honey.

DCCCXLIII.

Aſplenium.

Linneæ diſci ſubparallelæ, variæ.

Aſplenium Catarach (Common Spleenwort).

This plant has a ſlightly auſtere mucilaginous taſte. It is uſed in cachexy.

All the other ſpecies of aſplenium, poſſeſs the ſame qualities.

DCCCXLIV.

Polypodium.

Puncta diſci diſtincte.

Polypodium Vulgare (Common Polypody).

The ſoft root of this perennial plant, the part uſed, has a taſte ſweet, ſomewhat nauſeous, ending in a bitter. Its virtues are expectorant and eccoprotic.

DCCCXLV.

Polypodium Filix Mas (Male Fern).

The root, the part uſed, has a taſte diſagreeable, mucilaginous, and ſweet, with ſome ſtypticity, and towards the end becoming bitter. It is anthelminthic, lactiferous, and emmenagogue. It is exhibited in tenia, lumbrici, and rickets. The doſe is 30 grains to 1 ſcruple to children; and from 2 to 3 ſcruples to adults.

DCCCXLVI.

Adianthum.

Maculæ apicum margine reflex. obtectæ.

Adianthum Capellus Venerea.

This plant is chiefly uſed in making capillaire ſyrup.

DCCCXLVII.

2. The next order is the Muſci, or Moſſes.

DCCCXLVIII.

Acalyptrati.

Lycopodium.

Anthera 2-valvis, ſeſſilis.

Lycopodium Clavatum (Common Club Moſs).

The pollen, or flour, is uſed, which is of a dry quality, and employed in excoriations, and as a powder for covering medicines.

DCCCXLIX.

Lycopodium Selago (Fir Club Moſs).

Its qualities are draſtically cathartic, emmenagogue, and vermifuge. It is employed in dropſy, and againſt vermine.

DCCCL.

3. The third order of this claſs is the Algæ, or Flags, which have their root, ſtem, and leaf, all in one.

DCCCLI.

Terreſtres.

Lichen.

Fr. receptaculo lævi nitido.

Lichen Aphthoſus.

This plant is rank and mephitic. Its virtues are cathartic and anthelminthic. It is employed againſt worms and aphthæ. Its forms are the powder in doſes of 12 grains, and alſo the decoction or infuſion.

DCCCLII.

Lichen Caninus (Ground Liverwort).

This plant reſembles the former in ſmell. Its virtues are alterative. It is employed in hydrophobia, mania, and convulſive aſthma.

DCCCLIII.

Lichen Cocciferus (Cup Moſs).

It grows at the roots of trees in pine woods. It poſſeſſes a taſte ſlightly ſtyptic, and is uſed in chincough.

DCCCLIV.

Lichen Iſlandicus (Iceland Liverwort).

It is bitter, ſomewhat aſtringent, and mucilaginous; but its bitterneſs is much deſtroyed by boiling. It is nutritive and eccoprotic, and employed in conſumption, hemoptyſis, and cough. Its proportions in decoction are half an ounce to 1 lb.

DCCCLV.

Lichen Plicatus.

This ſpecies is aſtringent, and uſed in hemorrhages.

DCCCLVI.

Lichen Pulmonarius.

This ſpecies has a bitter ſaltiſh taſte, and is given in cough and jaundice.

DCCCLVII.

Lichen Roccella.

This is alſo ſaltiſh, ſlightly acrid to the taſte, and of a red colour. It is uſed as a paint.

DCCCLVIII.

Aquaticæ.

Conferva.

A. capillaris.

Conferva Rivularis.

Its chief quality is, that it exhales, eſpecially in winter, a great quantity of oxygen gas.

DCCCLIX.

Conferva Helminthochorton.

This plant poſſeſſes a nauſeous ſaline taſte; and gives out, in decoction, a great quantity of mucilage. Its virtues are anthelminthic; and it is employed againſt lumbrici, in doſes from 10 grains to 1 ſcruple. The proportion of its decoctions are 1 ounce to 1 lb. of fluid.

DCCCLX.

Fucus.

A coriacea.

Fucus Veſiculoſus (*Vegetable Ethiops*).

The aſhes are uſed. Its virtues are ſaline and alkaline. Calcined, it is given in bronchocele, and ſcrofula. Its doſes are 1 ſcruple.

DCCCLXI.

4. The laſt order of this claſs are the Fungi, or Muſhrooms.

DCCCLXII.

Pileati.

Agaricus.

Pileus ſubtus lamelloſus.

Agaricus Muſcarius.

This ſpecies is poiſonous. Its virtues are cathartic and ſudorific. It is given in epilepſy and palſy from retropelled diſeaſes. Externally, the powder is ſprinkled on malignant ulcers and gangrene. The doſe of the powder is from 10 to 30 grains in vinegar.

DCCCLXIII.

Boletus.

Pileus ſubtus poroſus.

Boletus Laricinus.

This ſpecies has a nauſeous bitteriſh taſte. Its virtue reſides in an acrid reſinous principle. It is draſtically cathartic and emetic. Externally, it is applied to hemorrhages and ulcers.

DCCCLXIV.

Boletus Igniarius.

This ſpecies mechanically ſtops the blood in hemorrhages.

DCCCLXV.

Boletus Suaveolens.

This ſpecies has a ſweet ſmell, and, when dried and beat in powder with a little alcohol, it is given in pulmonary conſumption and ſpaſmodic aſthma. The doſe is from half a dram to 2 drams.

DCCCLXVI.

Pileo deſtituti.

Peziza.

F. campanulatus.

Peziza Auricula.

This ſpecies is aſtringent, and uſed in the form of gargle and collyrium in angina and opthalmia.

DCCCLXVII.

Lycoperdon.

F. globoſus.

Lycoperdon Boriſta.

This plant is remarkably ſtyptic; hence it is aſtringent and obſtipating. It is exhibited in hemorrhages, piles, and ulcers.

DCCCLXIX.

Lycoperdon Tuber (Truffle).

This ſpecies has a goatiſh ſmell, is aphrodiſiac, and employed for domeſtic uſes.

DCCCLXX.

PALMÆ.

The laſt claſs, or rather an Appendix to his

Claſſification formed by Linnæus, is the Palmæ, or ſuch plants as have a ſpadix and ſpatha; the medical articles of which are:

DCCCLXXI.

Pennatifoliæ.

Phœnix.

Dioica. Drup 1 ſperma.

Phœnix Dactylifera (*Date Tree*).

The fruit of this tree has a ſweet mucilaginous taſte, and is nutritive and expectorant. It is employed in cough, hoarſeneſs, and ſtrangury.

DCCCLXXII.

Sagus (*Sago*).

Sagus Farinaria.

The flour of the pith is the part uſed. It is farinaceous, mucilaginous, and nutritive, and employed in conſumption and dyſentery.

DCCCLXXIII.

Coccos.

Coccos Butyracea } *Palm Oil.* }
Coccos Nucifera }

The fixed oil of the fruit is uſed. It poſſeſſes the ſame qualities as other fixed oils, and is employed in all cutaneous affections of inflammation or pain.

END OF THE FOURTH VOLUME.